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The Forum

EDITED BY J. M. RICE

APRIL—JUNE, 1903

eviews:

AMERICAN POLITICS . . . Henry Litchfield West 483

FOREIGN AFFAIRS . . . . . A. Maurice Low 498

FINANCE . . . . . Alexander D. Noyes 515

APPLIED SCIENCE . . . . Henry Harrison Suplee 533

LITERATURE: LEE'S LIFE OF QUEEN VICTORIA
Prof. W. P. Trent 547

MUSIC: LESSONS OF THE OPERATIC SEASON
Joseph Sohn 561

EDUCATIONAL OUTLOOK . . . . Ossian H. Lang 576

EDUCATIONAL RESEARCH: TALENT vs. TRAINING IN TEACHING . . . . . J. M. Rice 588

pecial Articles:

THE PRESENT ESTIMATE OF THE VALUE OF HUMAN LIFE . . . . . Rudolf Eucken 608
Prof. of Philosophy, University of Jena

THE SCOPE OF A PERMANENT TARIFF COMMISSION
Albert H. Washburn 617
Counsel for U. S. Treasury Dept.

SUBMARINE NAVIGATION: A LETTER TO THE EDITOR
F. M. Barber 625
Commander U. S. N., Retired

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The Forum

APRIL, 1903.

AMERICAN POLITICS.

CONGRESS adjourned at noon on March 4, after a session of three months' duration, during which more was left undone than was accomplished. At least four important measures — the Statehood Bill, the Littlefield Anti-trust Bill, the Aldrich Financial Bill, and the Philippine Tariff Bill — and two treaties, one dealing with Colombia as to the Panama canal and the other authorizing reciprocity with Cuba, were unacted upon. The session closed with an exhibition of partisan hostility. Within a few days before the final adjournment, the Republicans undertook to oust Mr. Butler, a Democratic Representative from Missouri, whose certificate showed a majority of 6,000, and seat Judge Wagoner, his Republican opponent. The Democrats opposed this partisan demonstration; and their anger rose to high degree when, in the prearranged absence of Speaker Henderson, and while Representative Dalzell, of Pennsylvania, was acting as Speaker pro tempore, the Republican contestant was seated by a vote which represented less than a quorum of the House. When the Democrats raised a point of order against this most unusual proceeding, Mr. Dalzell promptly ruled that the point of order was not well taken, a proceeding which the Democrats most bitterly resented.

The concluding week of the session, therefore, witnessed a succession of filibustering tactics inaugurated by the Democrats and interfering with the passage of any legislation save appropriation bills. Even these essential supply measures had to be forced through under the whip and

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spur of a special rule designed to repress the belligerent minority. So intense was the feeling engendered between the political parties during the final days of the session, that the customary vote of thanks to Speaker Henderson had to be proposed on the Republican side and did not meet with unanimous concurrence. It has been many a year since partisan feeling reached so high a point. The exhibition was not a pleasing one, and suggests the propriety of changing, if possible, the present method of deciding contested election cases. It would be well if such disputes could be settled in the courts, apart from political considerations; but as the House is not likely to abdicate its constitutional prerogative of determining the qualifications of its own members, we may expect to continue to witness, no matter which party is in power, remarkable spectacles of partisan injustice.

While there were many omissions in the schedule of measures which should have been enacted, the session is to be credited with having accomplished noteworthy legislation concerning trusts. Looking back over the busy weeks of Congress, there are some features of this anti-trust campaign which seem almost humorous. It will be remembered, for instance, that last fall much space in the newspapers was devoted to Representative Littlefield, of Maine, as the head and front of the anti-trust movement. When the session convened, Mr. Littlefield was placed at the head of a sub-committee of the Judiciary Committee of the House, and, with his colleagues, struggled manfully over the preparation of the measure which, when it was finally reported, bore his name. There were days and days of debate, with the final passage of the bill by the unanimous vote of 245 yeas; but, in the meantime, the Senate, without any sounding of loud trumpets, passed in quick succession three measures affecting trusts. These measures the House was compelled to adopt, practically without change. When the Littlefield Bill emerged from the care of the Senate Judiciary Committee, it had been amended in every section; and later, when an attempt was made by the Democrats to secure its consideration, the effort was defeated by a vote of thirty yeas to forty-one nays, the vote being along party lines, with the exception that Senators Nelson of Minnesota and McComas of Maryland voted with the Democrats in the affirmative. Thus the Littlefield Bill, heralded with much advance advertising, went down to an untimely grave; and the Senate again demonstrated its remarkable power in national legislation by initiating and compelling the enactment of its own views on the trust question.

The trio of anti-trust bills which became laws are known as the El-

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kins Rebate Bill; the Nelson Amendment, directing the Commissioner of Corporations of the new Department of Commerce to investigate and make public the details of trust organization, conduct, and management; and the Fairbanks Bill to expedite the hearing and determination of suits in equity pending or hereafter brought under the Sherman Anti-trust Law. It will be noticed that each one of the names thus mentioned is that of a Senator. At the same time, to give credit where it is actually due, it should be stated that each one of these proposed remedies for trust evils was originally suggested to Congress by Attorney-General Knox. In fact, Mr. Knox, upon the invitation of the House Judiciary Committee, went so far as to frame bills expressing his views in legal phraseology. It is true that Congress did not enact these measures *verbatim et literatim*, but the underlying and fundamental idea in each was adopted. Whatever credit, therefore, attaches to Congress for anti-trust legislation must be shared in very large degree by President Roosevelt and Attorney-General Knox.

In summing up the anti-trust legislation of Congress, it is worth while to present, as briefly as possible, a summary of the various enactments. The Elkins Rebate Bill provides that the failure of any common carrier to publish its rates, and to conform strictly therewith, shall be a misdemeanor punishable, upon conviction, by a fine of not less than $10,000 nor more than $20,000. The same penalty is provided for conviction of any person or corporation offering, granting, soliciting, accepting, or receiving any rebate, concession, or discrimination. The bill also clothes the Interstate Commerce Commission with authority to institute proceedings against the offending person or corporation. Before the passage of this law, it was the custom of large combinations of capital, such as the beef trust, to compel the making of rebates upon freight bills paid by them under threatened transfer of their business to some other road unless the rebates were granted. These concessions in freight were not, and could not be, obtained by individuals or small corporations, and placed them at a great disadvantage in the struggle for business. It is the purpose of the new law to compel the railroads to treat the small and the large shipper with equality. If the trusts crowd out competition in the future, therefore, it will not be through the advantage which they have hitherto enjoyed in securing reduced freights.

The publicity which is deemed so essential in controlling trusts is secured through an amendment to the bill which, when it became a law, established the Department of Commerce. This amendment created a Commissioner of Corporations, with power and authority to make dili-

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gent investigation into the organization, conduct, and management of the business of any corporation, joint stock company, or corporate combination doing an inter-state or foreign business, excepting transportation companies. The official is also directed to gather such information and data as will enable the President of the United States to make recommendations to Congress for the regulation of commerce. In addition to this, the Commissioner is "to gather, compile, publish, and supply useful information concerning corporations." There is no necessity, of course, of explaining this provision. Ever since the trust question entered politics we have heard the cry for publicity. No one will contend, for a moment, that the people are not entitled to some knowledge of the workings of great monopolies which control the output of the necessaries of life; and as the new Commissioner of Corporations, Mr. James R. Garfield, is a man of ability and courage, we may hope to see the veil lifted from corporate secrecy. At any rate, the President and Congress, having secured the detailed information which is now lacking, will be better able to grapple with the momentous problem which the trusts present.

And, lastly, in the bill to expedite suits brought in federal courts for violations of the Sherman Anti-trust Law, the Attorney-General has been given powerful assistance by Congress in the prosecution of the Northern Securities Company, the Beef Trust, and other alleged violators of the Sherman Law. The Attorney-General has merely to certify to the circuit court in which the suit is filed that the case is of general public importance, and immediately the barriers of the law's delay are broken down. The case is to be given precedence over all others; and if an appeal is taken, such appeal is to lie only with the Supreme Court of the United States, and must be taken within sixty days after the decision has been rendered.

Such is the record of Congress regarding anti-trust legislation. It is by no means a blank page. It may not be radical enough to warrant the commendation of extremists; but, on the whole, the country may well be satisfied that a step so long forward in the right direction has been taken. The earnestness and diligence which the Attorney-General has shown not only in securing this legislation, but in the execution of previous laws, is an indication that the rights of the people will be fully protected by him.

The story of the fight over the bill proposing to admit Oklahoma and Indian Territory, Arizona and New Mexico, as States, is a long and most

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interesting one. As might have been expected, the House passed the bill by an overwhelming vote; but again the Senate asserted its supremacy, and the measure was finally buried under a tombstone of interminable debate. Senator Quay, of Pennsylvania, astute, resourceful, and persistent, conducted the struggle for Statehood, and was unquestionably supported by a majority of the Senate, composed of nearly all the Democrats and a goodly proportion of the Republicans. The minority, however, was equally determined and as fully experienced in parliamentary strategy, and, more than all, was stimulated to unceasing endeavor by the certainty of an early expiration of the session. The contest attracted the attention of the entire country, and was followed, of course, with intense interest by the citizens of the Territories asking admission. Upon the surface, the chief question at issue was whether the Territories were entitled to Statehood; but beneath the surface was the more selfish and narrow question of whether the membership of the United States Senate should be increased. Certain Senators decided that this question should be answered in the negative; and, up to the present time, they have prevailed. Any one familiar with the parliamentary history of this country knows that as the House has increased its personnel, it has become less and less a factor in legislation. The small and compact Senate has steadily gained in power over the large and unwieldy House.

There was another question involved which did not appear in the public debate. Five of the more recently admitted States — Idaho, Wyoming, Montana, Nevada, and Utah — are represented by ten Senators, or one-ninth of the entire Senate, while to the House they send only five Representatives out of a total of 386. This disproportion, while in accord with the plan of government adopted by the framers of the Constitution, excites the jealousy of the larger States, the Senators from which were determined that it should not be still further emphasized by the admission of Oklahoma, Arizona, and New Mexico. Political considerations also entered into the contest, the Republicans fearing that the proposed new States would send Democratic Senators; but, after all, the desire to keep the membership of the Senate at the minimum figure and to prevent the smaller States from exercising too great an influence in the Senate were the controlling factors in accomplishing the defeat of the Statehood Bill.

It is not surprising to find among the leaders of both political parties a very active and spirited discussion of the next Presidential campaign. Only a few months will elapse before the assembling of State conven-

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tions to elect delegates to the next National Convention, which, early next year, will be called for the purpose of selecting Presidential candidates. There is not, up to the present time, any reason to doubt the correctness of the general opinion that the Republican convention will meet merely for the purpose of renominating President Roosevelt. The only opposition to him which has thus far made itself known is confined to Alabama, where certain disaffected Republicans have declared for Senator Hanna. It must be conceded, however, that neither the circumstances under which this declaration has been made, nor the locality where it was uttered, will have any weight with the party at large. Experience has shown that the Southern Republican is not a very potent factor in the national conventions of his party; and certainly, in this especial instance, there is nothing to commend the anti-Roosevelt movement to serious consideration. The Republican party does not look to Alabama for electoral votes: the time has not yet come when the Republicans in the Southern States can influence, much less direct, the political course of their Northern colleagues. It is not difficult to remember the fate which befell the effort, in 1896, to nominate Henry Clay Evans, of Tennessee, as the candidate of the Southern Republicans for the Vice-Presidency. That effort was well-organized and vigorously prosecuted; besides which, it had the prestige of presenting the name of a man of national reputation who deserved recognition on account of the gallant fight which he had made during the gubernatorial contest in his own State. He was earnestly supported; but a New Jersey Republican, comparatively unknown, was named.

On the other hand, there is every reason to believe that President Roosevelt will go before the convention with practically unanimous support. He is certain of New England; New York and Pennsylvania will be assured to him through Senators Platt and Quay; and the Western States have already declared for him with remarkable enthusiasm and unanimity. In Indiana, it is true, there is a local pride in the aspirations of Senator Fairbanks; but lively interest in Mr. Fairbanks does not prevail elsewhere. Ohio might be supposed to be loyal to Senator Hanna; but he has not, as yet, indicated any desire to receive support. Indeed, as far as he has taken any action in the matter, he has deprecated the advancement of his candidacy. In addition to all this, while there may be a dislike among professional politicians to Mr. Roosevelt's blunt and direct methods of dealing with public questions, the fact remains that this very dissatisfaction strengthens the President with the people. Admitting the power of politicians to manipulate the party or-

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ganization, the fact remains that the sentiment of the people is, after all, the controlling element and will not be disregarded.

There is another fact which must not be overlooked. Even if the inward and unspoken criticism is widespread, which I doubt, there is no cohesion among those who would defeat Mr. Roosevelt's nomination. Experience has shown that a faction of the party which gropes uncertainly for a candidate upon whom to unite is already defeated. There was, in 1892, a most determined opposition to President Harrison's renomination, stimulated and directed by experienced politicians. This opposition juggled in vain with the magic name of Blaine, offered seductive inducements to McKinley without success, and struggled in ludicrous and futile endeavor to unite upon some candidate who possessed sufficient strength to break the Harrison column.

If it be said that President Arthur failed to be nominated as his party's candidate for the Presidency after entering the White House under circumstances of tragic character, similar to those which elevated President Roosevelt, it should be remembered that President Arthur represented a faction of the Republican party which had differed with President Garfield; that he speedily supplanted every member of Garfield's cabinet with appointees of his personal selection; and that it was not very long before he had alienated a goodly proportion of the faction which had supported him. He did not, as President Roosevelt has done, adhere to the policies and retain the cabinet of his predecessor; he did not enjoy the confidence, as President Roosevelt does, of the men who were loyal to the man whom he succeeded. But even with all this, I think it can be truthfully said that the treatment which Arthur received at the hands of his party is now recognized as having been cruel, unwarranted, and disastrous. Cleveland's election in 1884 was due to many causes; but not the least of these was the feeling of resentment on the part of many Republicans against the manner in which President Arthur had been refused the recognition and endorsement which he richly deserved.

The great question to be answered next year is not whether President Roosevelt will be nominated, for that result may be regarded as a foregone conclusion, but whether he can be elected. It is too early to discuss this question at the present time. The political situation in the United States changes with kaleidoscopic diversity and frequency, and what is an issue to-day may to-morrow be an incident entirely forgotten. First of all, however, the Democratic party must select a candi-

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date, and to the consideration of this important matter the leaders are now addressing themselves. In my last article in THE FORUM, I declared with some emphasis that neither Mr. Bryan nor Mr. Cleveland could be considered as possible candidates. Since that writing, Mr. Bryan has, in a formal utterance, declared that he is not, and will not be, a candidate for renomination. "Under no consideration," says Mr. Bryan, "would I again go into the field. I am a plain worker in the Democratic ranks, and am content to remain as such."

Mr. Bryan is therefore not to be considered a candidate; but those who, at the same time, attempt to discount Mr. Bryan's influence, and who regard him as no longer a factor in politics, are in my judgment sadly mistaken. In the two campaigns wherein he sought the election to the Presidency, Mr. Bryan received the votes of over six million people. Granting that a very large proportion of this support went to him because he was the party candidate, it must nevertheless be admitted that he had a personal following, attracted to him because of his ability, honesty, and courage. If this personal strength amounted to only one-third of his entire vote, there would still be two million people behind him; and any man who commands that number of votes in this country is a factor to be seriously considered. Mr. Bryan may be out of the Presidential race, but he is not out of the Democratic party, and he is not out of politics. To be elected, the next Democratic candidate must receive Mr. Bryan's endorsement. I do not mean that the candidate must subscribe to all of Mr. Bryan's views, nor do I think that Mr. Bryan will lay down this ultimatum. It would be a strange situation if, after so many Democrats who disagreed with Mr. Bryan followed him loyally to the polls, he should refuse to support with equal devotion a man who might not be equally radical with him on every public question.

The nomination of Mr. Grover Cleveland would excite the hostility, not alone of Mr. Bryan and his following, but of thousands of Democrats who do not regard themselves as among Mr. Bryan's adherents. Mr. Cleveland, in order to be elected, would have to receive enough Republican votes — and, in fact, more than enough Republican votes — to compensate for the Democratic votes which he would fail to command. I believe that he would not be able to secure this Republican support, and therefore that his nomination would invite defeat. The next Presidential nominee of the Democratic party must have behind him a united, and not a divided, army. Mr. Cleveland cannot lead this solid phalanx. Mr. Bryan's animosity is unconcealed. His declination of the invitation to the Jefferson Club dinner, at Chicago, because Mr. Cleveland

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had also been asked to be a guest, and his speech before the Women's Democratic Club of Brooklyn, wherein he severely arraigned the ex-President, were outspoken evidences of his bitter feeling. It may be argued that Mr. Cleveland ought to feel complimented in being the object of Mr. Bryan's hostility. That phase of the question does not require consideration. The point is, can any candidate who thus, at the very outset, repels a large proportion of the voters upon whom he must rely for support, be regarded as available? One would think that the suggestion of Mr. Cleveland's nomination would fail to make effective headway; and yet we find a number of more or less influential journals, among them "Harper's Weekly," presenting his name with serious interest. "The crucial question," asserts this paper, "is what Democrat is able not only to carry New York, but also Connecticut, New Jersey, Indiana, and Illinois, inasmuch as the electoral votes of at least all of those States will probably be indispensable. Now there is only one Democrat alive who has ever carried those five States, and that man is Grover Cleveland." It is apparently forgotten that conditions now are very different from those which existed when Mr. Cleveland carried the five States thus mentioned. The fact is also ignored that he has already enjoyed two terms in the White House, and that no other President has been more highly honored. The American people are not likely to place Mr. Cleveland on a more exalted pedestal than George Washington.

The activity which is displayed by the friends of certain would-be candidates is an indication that in some quarters, at least, there is a belief in possible Democratic victory next year. Thus we find the Democratic State Committee of Massachusetts, under the chairmanship of Mr. Josiah Quincy, giving much impetus to the candidacy of Hon. Richard Olney, former Attorney-General and Secretary of State in Mr. Cleveland's second administration; while in New York the campaign of Judge Alton B. Parker is being pushed with much persistency and shrewdness. As for ex-Secretary Olney, it seems to me that the Democratic party, while it may be forced to do many remarkable things, will hesitate before selecting a candidate from a rock-ribbed Republican State. It must not be forgotten, either, that it was Mr. Olney who found a law for sending federal troops into Illinois to suppress a labor riot, and who urged President Cleveland to apply that law. Without discussing the merits of Mr. Olney's action, it is sufficient to say that it was not one which will gain him votes. His own party in Congress did not approve it, and only one Republican of prominence, the late Senator Davis, of Minnesota, had the moral courage to commend him publicly. In addition to

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this, Mr. Olney is a corporation lawyer, who has been generously paid for his advice to trust magnates. The fact that he is an American even to the point of jingoism, as shown by his attitude in the Venezuelan boundary dispute, will not altogether suffice.

If Judge Parker fails to receive the Presidential nomination, it will not be through lack of skilful and industrious advertising. Judge Parker himself may well be acquitted of the persistent attempt to keep him in the public eye. Indeed, such utterances as he has made on public occasions have been deprecatory of the effort to make him notorious. At the same time, his friends are evidently working upon the principle that what is worth having is worth trying to get. They remember, doubtless, the successful manipulation which resulted in Mr. Cleveland's third nomination, and the superb organization which achieved victory for McKinley at St. Louis in 1896. It may be that the editorials advocating Judge Parker's nomination, which are simultaneously appearing, are the spontaneous utterances of undirected minds. It may be that the interviews lauding him, which are suddenly blossoming upon every newspaper page, are not inspired. It may be that the indefatigable "press agent" is not at work; but if so, then, indeed, is Judge Parker the most formidable candidate in the field. There is no question of his unblemished reputation, or of his ability as a judge and lawyer. On the other hand, it will naturally be held against him that he declined to lead his party in State campaigns where his name and influence would have been of great assistance; and it will also be asserted, with considerable truth, that he is not known outside of New York. His friends have made every effort to acquaint various sections of the country with his personality, and we may expect that he will, within the next few months, make several tours. The assiduity with which his candidacy has been pushed has been one of the most interesting political features of the past three months.

Past experience would indicate that the Democratic party ought to take a New York man for its candidate for the Presidency. Great as this country has grown, the fact remains that New York is still the battle-ground. No President has been elected, in recent years, at least, who did not carry New York; and if President Roosevelt be chosen as the leader of his party, it may be considered essential that his opponent should be a citizen of New York. Outside of Judge Parker, the only name which suggests itself is that of ex-Senator David B. Hill, whose ambition is unconcealed. Governor Hill lost considerable prestige in the last campaign, when he put forward in the New York State platform

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a scheme for the government ownership of coal mines. He so thoroughly dominated the State Convention and was so all-powerful in the selection of the candidates that the defeat which the party suffered naturally reacted against him. He has, however, many earnest and active friends who will not allow him to sink into obscurity; and as he is strong in the South, as well as in certain sections of the West, it would not be surprising to find him appear as an active rival against Judge Parker for the support of the New York delegation.

It is too early to outline the issues of the next campaign. We know, of course, that the fight against the trusts will be continued, and that there will be an agitation in favor of revising the tariff. There is not, at present, any indication of a very general discussion of the Philippine question. The Philippines were hardly mentioned during the session of Congress which has just closed, and public interest in the islands seems to have greatly diminished. This may be due to the fact that a curtain seems to have been drawn over our new possessions. The American public is learning nothing concerning the progress of events in the Philippines. When an occasional despatch filters into the newspapers, as occurred a few days ago, it tells of skirmishes between the natives and the American soldiers, one of these engagements happening, for instance, only ten miles outside of Manila and resulting in the capture of the Americans. The announcement of this condition of affairs within such close proximity to Manila came as a revelation to the American people, and emphasized the ignorance which prevails in this country concerning Philippine affairs. It may be that we, as a people, have settled into a conviction that the Philippines are to be permanently retained. If this be the case, nothing that may be said or done regarding them will have any political weight.

If not — if the Philippines are to be an issue in the next campaign — it is to be hoped that the American people may, in some manner, be made acquainted with the exact situation in the archipelago. If it be true, as asserted, that all channels of news from Manila are effectively controlled through official influence, we cannot, of course, expect to have the truth told impartially and accurately; neither will the people here be satisfied by the reports of partisan visitors who see only through prejudiced glasses. What is needed is the careful, deliberate, painstaking work of some modern historian, who will record events as he sees them, without fear or favor, and yet with such judicial temperament as will enable him to weigh these events in a proper balance, and not make the

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mistake of emphasizing an exceptional occurrence as though it were typical. Such work would be of the utmost value, not only because it would give the voters a clear understanding of Philippine conditions, but because, apart from all political considerations, there is needed a comprehensive, intelligent, and reliable review of these conditions. It is the opinion of Mr. Charles S. Hamlin, former assistant secretary of the treasury, under President Cleveland, that the Philippine policy of the present administration will be the principal issue in the campaign. If this is to be the case, the American voters ought to be enlightened with something more than the nebulous and indefinite information which they now possess.

President Roosevelt's appointments of colored men to federal positions continue to attract a degree of attention hardly merited by the real facts in the situation. For instance, his action in the case of the colored postmistress of Indianola, Mississippi, wherein he ordered the office discontinued on account of certain indignities offered to the woman, was not without precedent. Other Presidents have, in the past, pursued the same course under the same circumstances, notably in the closing of the post-office at Lake, South Carolina, six years ago, by President McKinley, after the colored postmaster had been murdered. The negro question had, however, reached an acute stage when the Indianola episode occurred; and it was not surprising that the dispute between Mrs. Cox, the postmistress, and the citizens of the town was carried into national politics. In the Senate there was a protracted debate; Senator Spooner, of Wisconsin, insisting that the President had acted wisely, and that the question of the right of the Government to manage federal affairs without the consent of the States was involved. On the other hand, Senator McLaurin, of Mississippi, asserted that the people of Indianola had not done wrong in ridding themselves of an official who represented an inferior race; while Senator Tillman, of South Carolina, dealt with the subject with characteristic frankness, openly expressing his opposition to negro officials of any kind.

The excitement attending the Indianola case had not ceased when the President announced the appointment of Dr. W. D. Crum, a colored physician, to be collector of the port of Charleston, South Carolina. A vigorous protest against the appointment was at once forwarded from Charleston, and a determined effort was inaugurated to defeat the nomination. The Senate Committee on Commerce, to which the nomination was referred, finally decided to report it adversely; Senator Perkins,

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of California, and Senator Jones, of Nevada, joining with the Democrats in casting negative votes. The nomination remained upon the calendar at the end of the session, although it is asserted by leading Republican Senators that if the vote had been taken Dr. Crum would have been confirmed. The President has promptly sent Dr. Crum's renomination to the Senate, sitting in extraordinary session, so that a renewal of the conflict seems certain. During the controversy, Mr. Judson W. Lyons, the capable register of the treasury, and one of the leaders of his race, expressed what may be accepted as the view of his people. He said:

> The population of South Carolina consists of 540,781 white persons and 781,788 colored persons. When it is charged that the people of the State are opposed to the appointment of Dr. Crum to this office, I am at a loss to understand what people are meant — for certain it is that all the colored people of the State are in favor of his appointment, and I am reliably informed that a great many white people have manifested their hearty approval of his selection. If the majority rule in this country, it is clear that the President's action is endorsed by a tremendous majority of citizens of the Palmetto State.

Mr. Lyons' argument will hardly be convincing to the taxpayers of South Carolina, a very large majority of whom are white, nor to the importers who have occasion to do business at the Collector's office, among whom there is not, I am told, a single colored man; but it is not necessary to enter into these details. The point worthy of consideration is that the negro question is becoming more and more a political issue. The negro in office has always been a source of friction; but at present the high-water mark of discussion seems to have been reached. What is to be the outcome? Is it to be a fact, as Secretary Root predicts, that in a few years "white opinion will exclude blacks from office altogether in the Southern States"? Are we compelled to face the conclusion, as Mr. Root asserts, that the experiment of negro suffrage has failed? Mr. Root takes the ground that the state of official treatment of the black man has not changed, but that the state of public feeling in the South has changed; the right to aspire to federal office, unquestioned a few years ago, being now challenged.

We find, as a result of this renewed agitation, all manner of suggestions as to the future treatment of the negro; Senator Morgan, of Alabama, proposing, for instance, an enforced emigration to the Philippines. Another suggestion is found in a bill which was recently introduced in Congress, providing for the appointment of a commission of five persons to make a comprehensive investigation into the condition of the negro race, their educational progress, and the best means of promoting harmony between the races. This measure was unfortunate enough to be

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regarded as partisan; and, while reported favorably by the Republican majority of the House Committee on Labor, it was strongly opposed by the entire Democratic membership of the committee. This marked diversity of opinion was, as I say, unfortunate, because such an inquiry, if honestly, impartially, and judicially undertaken, would have great value. Indeed, it would be well, as Prof. Kelly Miller, a distinguished educator of his race, has suggested, if the investigation could be made by the Bureau of Education, the Bureau of Labor, or some one of the already established federal bureaus which might appropriately deal with the subject. It is now forty years since the emancipation of the negro; and a careful, thorough, and exhaustive study of his present condition — giving him ample credit for the advancement he has made and yet pointing out the measure in which he has failed to avail himself of his opportunities — would be a noteworthy contribution to sociology.

In the meantime, while Mr. Henry Watterson inveighs against the President, on the one hand, and Northern negroes shout their endorsement in mass meetings, on the other, and while Archbishop Ireland demands that the negro shall not be deprived of either suffrage or office, Mr. Booker T. Washington is teaching and talking among his colored brethren in the South and is doing more in a single year for the betterment of his race than can be accomplished by the politicians in a decade. He is making something besides office-holders; he is training young colored men and women to be earnest, industrious, thrifty citizens; he is telling them to leave politics alone and command respect, not through their numerical power as voters, but through their capacity to earn and to produce. The important point about Mr. Washington's work is that his effort to improve his race has passed the experimental stage. He has accomplished results; and every patriotic citizen must accord to him the distinction of successful effort in the direction of solving the race problem. It is a pity, on the other hand, that the men who are engaged in deluding the colored people of the South into the belief that Congress will grant pensions to all ex-slaves cannot be compelled to cease their mischievous agitation. They are doing an incalculable amount of injury, as any one must do who dances an *ignis fatuus* before a race whose credulity is so easily imposed upon.

President Roosevelt notes, in a recent letter to Mr. Clark Howell, the editor of the "Atlanta Constitution," what he characterizes as "the incomprehensible outcry in the South about my actions," and says that he is at a loss to imagine the basis for all the excitement which has been created. At the same time, Mr. Roosevelt announces that he is not to

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be swerved one hair's breadth from what he considers to be his duty. His policy is outlined in a single sentence. "I certainly cannot treat mere color as a bar to holding office," he says, "any more than I could so treat creed or birthplace, always providing that, in other respects, the applicant or incumbent is a worthy and well-behaved American citizen." If the present agitation was, therefore, started for the purpose of preventing the appointment of colored men to office, it has signally failed; but it seems to me that its inception may be looked for in another direction. There is, of course, in the South an objection to colored federal office-holders. The trouble is, however, that the negro is being made, without any effort on his own part and greatly to his own disadvantage, a political issue. Treated in the Democratic South as a bogey-man to solidify the white race, and utilized in the North as a valuable adjunct to the Republican party in doubtful States, he is innocently made to suffer and his advancement is retarded. It is an unfortunate position in which he finds himself, and all the more unfortunate because he stands helpless and alone.

It is a pleasure to record, in conclusion, the election of two Senators from Delaware, a State which has so long been without representation in the United States Senate. It is not necessary at this time to review the conditions which have existed in Delaware for so many years, and which have done so much to discredit the name of a commonwealth honnored by the Saulsburys and the Bayards of the past. On the first day of last March, the Addicks, or Union, Republicans and the Regular Republicans closed their conflict, and, by uniting, elected Mr. J. Frank Allee, Union Republican, for the long term expiring in 1907, and Mr. Lewis Heisler Ball, Regular Republican, for the short term ending in 1905. Mr. Allee is the closest personal friend of John Edwards Addicks, whose connection with politics in Delaware has occasioned so much comment; while Mr. Ball has just concluded his first term as a member of the House of Representatives. It is a matter of national felicitation that the squabbles and disputes of the Delaware Republicans are ended; and we can afford, in view of this relief, to accept with equanimity the statement of Mr. Addicks that he will enter the race again for the term beginning in 1905. For the time being, at least, he will be retired from public view; and it is to be hoped that when he again appears the position of his State toward him will be defined by such an overwhelming majority, one way or the other, that the spectacle to which the country has been treated during the last few years will not be repeated.

HENRY LITCHFIELD WEST.

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FOREIGN AFFAIRS.

"AND he always opened his conversation with the news that there would be trouble in the Balkans in the spring." Thus Kipling, describing his great war correspondent, who slept with one eye on the map of Europe and the other on his field equipment, ready at any moment to write despatches from the seat of war and to tell the world how thrones were tottering. The trouble in the Balkans in the spring has been for many years the stock property of diplomatists and newspapers. Almost every year since 1877 we have been told that so soon as the snow flies, the uprising will take place, and the world will be called upon to witness the great European war, the Armageddon which is once more to transform the map of Europe. The cry of wolf has been raised so often that the gentle shepherds who control the destinies and lives of millions of their fellow-men have become somewhat sceptical, and have been led to believe that another paper reform promulgated by Turkey would ward off the threatened cataclysm. This year, however, it looks very much as if the expected were about to happen. It is within the bounds of probability that before this is printed Americans may read accounts of fighting even more sanguinary than when Russia hurled her Cossacks against the Shipka Pass, and Osman Ghazi again made the world respect the fighting qualities of the "unspeakable Turk." Turkey, playing her old game of pitting one power against the other, may stave off the hour of atonement; but if the European press is to be relied upon, and if diplomatic and military activity means anything, the powers most vitally interested in the near Eastern question have apparently made up their minds that the reckoning cannot be much longer deferred.

The danger point now, as it has been for a great many years past, is in Macedonia, that European province of Turkey which is one of its most profitable sources of revenue, but which has perhaps suffered more than any other part of the Sultan's dominions from Turkish misrule and the dishonesty and brutality of its governors. The Treaty of San Stefano, which halted Russia at the very gates of Constantinople, after she had driven Turkey to the wall, was followed by the Treaty of Ber-

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lin, in 1878, by which the great powers of Europe pledged themselves to secure for the Turkish provinces decent government. Practically, the treaty has remained a dead letter, owing to the conflicting interests of the signatory powers and their unwillingness to bring pressure to bear upon the Porte. England was more interested in keeping Russia out of the Mediterranean than she was in the welfare of the Sultan's Christian subjects; Russia has used both coercion and persuasion to stand in with Turkey and to gain her long-desired twofold object — to see Constantinople brought under the Russian flag and to obtain control of the Bosphorus; Austria has hard enough work to keep her Balkan provinces in a state of semi-quietude, and is not looking for trouble with Russia or Turkey; Germany has turned her attention to Asia Minor, where she has a rich field for commercial exploitation, and in recent years has been regarded as the friend and ally of the Sultan; and Italy asks for nothing more than to strengthen her possessions on the Adriatic. The Sultan, the Sick Man of Europe, the man who, according to Mr. Gladstone, ought to be turned bag and baggage out of Europe — although he was not willing to undertake the job himself — has survived his physicians. He is to-day, as he has been for more than half a century, despised, detested, and in a measure feared by Europe; and yet so skilfully has he worked upon the fears of his enemies and turned their jealousies to his own advantage that he has been able to defy the attempts to dislodge him.

There comes a time, however, in the affairs of Turkey when conditions become so intolerable that her people rise in protest, and then Europe, even against its own will, is forced to attempt a reorganization of that disordered household. It was that state of affairs which led England and France to join hands against Russia in the Crimea. It was the Bulgarian atrocities of 1876 that afforded Russia her pretext to make war on Turkey. Russia at that time had the support of Bulgaria, Servia, and Roumania, and yet the defeat of the Turk taxed Russian resources to the utmost, and was only accomplished after one of the costliest struggles that modern times have known — a struggle from which Russia emerged with little military prestige, although she gained a certain profit. If Russia should now again attempt the task of administering a lesson to Turkey, it would be a titanic conflict. Honeycombed by corruption as the Turkish Empire is, inefficient as it is in all its branches of government, its army, from all reports, is in a high state of efficiency, and as a fighting machine is much more powerful than it was twenty-five years ago. Since then it has been re-armed and drilled by German officers, and military observers believe that if Turkey fights with

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her back to the wall, if she has to make her last stand, she will give such a good account of herself that Russia will only purchase victory after the expenditure of millions of money and thousands of lives. If there should be war it will be a duel to the death. The Turk will know that his very existence will depend upon the outcome of the struggle. The success of Russia would mean, in all probability, the effacement of Turkey as a European power and the division of its heritage among the great powers of Europe. The dream of Peter the Great may be realized, and Russia may be mistress of the Bosphorus.

The present crisis has been nominally caused by the agitation of the so-called Macedonian Committee, which has its headquarters in Bulgaria; but the underlying cause is deeper and more subtle. The object of the Macedonian Committee is to obtain autonomy for Macedonia, and by continual agitation and unrest to direct the attention of Europe to the state of affairs existing there, and to make Europe believe that the only peaceful solution is to give Macedonia the independence she craves. Much of this agitation is professional. The Macedonian revolutionary committee has raised the alluring cry of "Macedonia for Macedonians"; but the population is heterogeneous, consisting of Bulgarians, Greeks, Servians, and Turks, who have a common purpose in view to throw off Turkish rule, but who, because of racial and religious antipathies, hate each other as bitterly as they hate their detested master. If they should succeed in freeing themselves from the Sultan's yoke, in all probability even a greater state of unrest would prevail. The Bulgarian population of Macedonia would like to have the province made a part of Bulgaria, or at least to be governed from its capital, Sofia; the Servian Macedonians look to Belgrade; the Greeks to Athens; and the Turks to Constantinople, when the present dynasty has been driven forth, and the party of reform and modern progress, the so-called Young Turks party, has obtained the control of affairs. Macedonia as an autonomous state would be a worse hot-bed of revolution than Venezuela even, where revolution is chronic and peace is so rare that it is the one thing to excite comment. Not only are the Macedonians a mixed people, speaking no common language, but religious differences also complicate the situation. In a general way, the world has heard much about the Macedonian Christians, and many good people of America have given thousands of dollars to send missionaries there to spread the gospel. Those Macedonians who call themselves Christians, in contradistinction to the Turks or Mohammedans, do not all worship at the same shrine. There are members of the Greek church, whose head is the Czar of Russia, and

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there are members of the younger Greek church, who look for their spiritual guidance to the patriarch in Constantinople.

To foment discontent with Turkish rule the Macedonian Committee shrewdly plays on national sentiment. Its agents among the Servian population point out in glowing language how much happier they would be if the Turks were driven out and Macedonia governed from Belgrade; while among the Bulgarians the same tactics are employed, with the difference that Sofia is substituted for Belgrade, the result being that whatever goes wrong is the fault of the Turkish Government. With the sole exception that every Macedonian is anxious to end Turkish rule, they are agreed on nothing. If Macedonia were independent of Turkey, it is questionable whether a worse state of affairs would not exist. That the state of affairs existing is a disgrace to a civilized age nobody will dispute. In Macedonia, as in all other parts of the Turkish dominions, the people are ground under the extortions of the tax-gatherer, whose business it is to collect his tithe no matter what means may be employed, for Constantinople cares nothing how the money has been obtained so long as it rolls in. An honest administration of the government would put an end to much of the discontent and agitation now existing.

The two powers that are most directly concerned in affairs in the Balkans are Russia and Austria, because of the proximity of the focus of agitation to their borders. In 1897 Russia and Austria entered into an agreement under which they have exercised a restraining influence on Bulgaria, Servia, and Greece, and have thus far succeeded in preventing an outbreak. Russia and Austria have recently put pressure to bear upon Turkey to carry out the reforms demanded by the Macedonian Committee; but whether Russia is acting in good faith and is really desirous of preventing war or is secretly encouraging it, believing that the time has now come to carry out her long-cherished design, no one can tell. Suspicion has been aroused as to the sincerity of Russia's declarations by the visit recently made by Count Lamsdorff, the Russian minister of foreign affairs, to Vienna and the capitals of the Balkan States. It was officially stated at the time when Count Lamsdorff went on his tour that he wished to obtain personal knowledge of the Macedonian situation, and to see what ought to be done to deal with it. It was not denied that the main object of the visit was to devise, in concert with Austria, a joint scheme for meeting existing conditions. Russia recognized that the maintenance of the *status quo* was impossible, and that, although the Sultan might continue to issue paper "reforms" for some

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time to come, eventually Russia, acting jointly with Austria, would be forced to impose a scheme of reforms which Turkey would have to accept, or reject at the risk of war.

The European press outside of Russia and Austria places its own interpretation on Count Lamsdorff's journeyings. The anti-Russian view is that while Count Lamsdorff officially informed the rulers of both Bulgaria and Servia that Russia would not countenance a Macedonian uprising, and warned King Alexander of Servia and Prince Ferdinand of Bulgaria that they must not encourage the Macedonian revolutionary committee, the Russian foreign minister at the same time caused it to be known that unless Turkey made the reforms which Russia and Austria demanded, those powers would carry them out without the consent of the Sultan. In other words, Turkey was to be made to assume the responsibility for non-compliance with the mandate of Russia and Austria; and in the meantime, for the sake of appearances, the Macedonian Committee was to be kept quiet, and both Bulgaria and Servia were ostensibly to frown upon the agitation. Then if Turkey refused to obey the admonitions of Russia and Austria, or openly defied them, they would feel justified in adopting rigorous measures.

If Russia takes the field against Turkey it will not be, according to the opinions of the best-informed European diplomatists, because she is moved by a spirit of self-sacrifice and is impelled by the chivalric desire to lead a new crusade to relieve Christian Europe from the oppression of the Pagan Turk, but rather because she sees an opportunity to make a profit out of the venture. Whether Russia can count upon the military co-operation of Austria is an open question; but it is generally believed that Austria will allow Russia to do the actual fighting, and then in the round-up obtain her share of the spoils. The minor Balkan States also are not swayed by altruism. Bulgaria as well as Servia, because of past grievances, would be only too glad, under the guiding influence of Russia, to strike another blow at the hated Turk; and there is always the hope that as a result of war and the downfall of Turkey as a European power, Macedonia may be added to one of the Balkan States. Any partition would lead to a good deal of friction, and the state that profited least by the arrangement would undoubtedly accuse its allies of duplicity; but that is a matter far in the future, and may be taken care of when the time arrives.

As confirming the belief that Russia is playing a subtle diplomatic game, it is significant that, since the visit of Count Lamsdorff to Vienna and his lengthy conferences with Count Goluchowski, the Austrian for-

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eign minister, the officially-inspired Russian and Austrian papers have significantly pointed out a way by which Turkey can be compelled to defy her more powerful neighbors and justify them in resorting to armed coercion. The St. Petersburg "Novoste" says: "In our judgment there is but one way to avert the danger of a rebellion — to give Macedonia complete autonomy with a Christian prince or governor-general at the head of the local government, and with the explicit recognition of the sovereignty of Turkey over the province," and it concludes with this pregnant sentence: "It will not be easy to induce the Porte to grant this measure of reform, as we may infer from the experience of Crete." The papers of both countries tell the people of the Balkan States that they must be patient and must not count on the support of either Russia or Austria; but at the same time they dwell on the duty of both countries, in view of the treaty of 1897, to insist upon these reforms, and to make the Porte understand that Europe, while long-suffering and lenient, has pretty nearly reached the limit of its indulgence.

In his defence the Sultan has issued a circular note to the European powers, explaining the cause of the Macedonian agitation and throwing all the responsibility upon Bulgaria. The Macedonian revolutionary committee, according to the circular, has its headquarters in Bulgaria, and that agitation is permitted with the connivance of the Bulgarian government. The committee should be suppressed not only in the interests of order, but for the sake of the Christian population of Macedonia, as it leads to violence and murder. The Porte, the circular plaintively states, should not be held responsible for the troubles feared in certain quarters, and if Bulgaria would only do her duty there would be no further cause for apprehension. This circular is typical of Turkish methods. Whenever things become too uncomfortable for Turkey or pressure is put upon her by any of the European powers, "reforms" are always promptly promised; edicts are promulgated with all the solemnity that characterizes the Oriental in a matter of high policy, and are then as promptly forgotten.

"Turkish statesmen," a recent writer trenchantly remarks, "have hitherto agreed in treating all such documents as Dr. Brayer's Turkish patient treated his prescriptions: he kept them safely deposited within the lining of his cap, and wondered that they produced no effect. And yet — such is the sad plight to which centuries of misrule have brought the near East — it cannot help regarding the insistence upon reforms as the one available resource." It is because of the fear of what may follow that men like the writer just quoted are willing to accept subter-

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fuges and promises of sham reforms, with the hope of warding off an appeal to arms. Once let Turkey be crushed — and, no matter how well she may fight, in the end she is bound to strike her colors to Russia — and there would be so many quarrels over the disposition of the spoils that it would be surprising if a general European conflict were avoided. One thing is quite certain: the Sultan will not grant Macedonia autonomy, and would rather risk war, because the jealousies of the European powers may again save him as he was saved in 1877. For a desperate man that is a chance worth taking, and the fatalism of the Oriental makes him desperate when desperate measures are the only ones to be employed.

There are two great powers that cannot be unmoved spectators of events in case Russia, or Russia and Austria combined, should make war on the Sultan. These two powers are Germany and Great Britain. A few years ago the thought of Russia extending her sway over Constantinople would have set England in a blaze of excitement, and the ministry would have begun to mobilize the army and the fleet. At the present time England looks upon Russia's possible control of the Bosphorus as of less importance. There are men of the highest standing who advocate that England should abandon the Mediterranean, because the Mediterranean, instead of strengthening her line of defence, is now, owing to greater interests in other parts of the globe, an element of weakness. If the Turkish Empire should be carved up, England would doubtless see that Egypt fell into her lap. France, of course, would object to that, but Russia would be only too glad to keep France quiet and "square" England at that price. Germany would still further extend her control in Asia Minor, and possibly make a secret bargain with Russia, the existence of which the world would only know of in later years. Viewing, therefore, the enormous consequences which might result from a war between Russia and Turkey over the comparatively minor question of reforms in Macedonia, it can be very well understood why European statesmen are nervous; and that passage in the King's speech on the reassembling of Parliament, "The condition of the European provinces of Turkey gives cause for serious anxiety. I have used my best efforts to impress on the Sultan and his ministers the urgent need of practical, well-considered measures of reform," significantly expresses the general feeling of dread.

One of the most important political events of the last three months was the nullification by Russia of the last important clause of the Treaty

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of Paris of 1856. One of the articles of that treaty contained a declaration to the effect that the Sultan was firmly resolved to maintain the principle "invariably established as the ancient rule of his empire" by which ships of war of foreign powers were prohibited from entering the Straits of the Dardanelles and of the Bosphorus. The signatories to the treaty — Russia, France, and Great Britain — pledged themselves to respect this determination of the Sultan and to conform to the principle enunciated. In January, a Russian torpedo-boat destroyer, without its armament and flying the Russian merchant flag instead of the naval ensign, passed through the Dardanelles into the Black Sea. The Russian Government had previously applied to the Porte for permission for four torpedo-boat destroyers to enter the Dardanelles to join the Russian Black Sea fleet. The British Government objected to permission being given, on the ground that it was in violation of the treaty, and announced that if the Porte permitted the passage of Russian torpedo-boats British vessels would also use the Straits if necessary in the future. The Russian Government answered the British protest by declaring that a torpedo-boat destroyer without its armament and flying the merchant flag was not a vessel of war within the scope of the prohibition of the treaty — a subterfuge that deceived no one.

Some of the London papers in discussing this affair — and it may be added that since the passage of the first torpedo-boat destroyer the others have followed — admit that the treaty was violated, but ask what is gained by closing the Bosphorus to European warships. It is pointed out that Russia is not prevented from maintaining naval vessels at both ends of the Straits; that she has a permanent squadron in the Black Sea; and that whenever she desires to show her flag in the Mediterranean, all she has to do is to send part of her Baltic fleet to Southern waters. The London "Speaker" asserts that if England had been able to send a squadron to cast anchor in front of the Yildiz Palace, there would have been no Armenian massacre. What caused considerable irritation in England was the fact that Germany did not second the British protest, although at that time Germany and Great Britain were acting in concert in coercing Venezuela. Because Germany remained severely aloof, the London "Times" somewhat petulantly remarked that "in all controversies with Russia we may confidently count on having Germany against us"; while the "Daily Mail" advanced the opinion that Germany's aim was to promote discord between Great Britain and Russia. The Hamburger "Nachrichten," replying to these criticisms, admits that the Dardanelles is outside of the German political sphere;

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and it somewhat bluntly adds that Germany sees no necessity to use any influence it may have over the Porte for the advantage of England, or to disturb her harmonious relations with Russia in England's favor. The comment on this by the "Temps" is typically Parisian. "Here is an offensive and defensive alliance that begins strangely with a slightly clouded honeymoon," is the satirical observation of the French paper.

England's policy for the last half century — that is, if England can be said to have any well-defined diplomatic policy — has been to regard the Mediterranean as an English lake out of which Russia must be kept at all hazards. France was made to understand that, although she was permitted there by sufferance, the real master of this sea was England. By bottling up Russia in the Black Sea and closing the Bosphorus to her warships at the one end, and with Gibraltar at the other end in her own possession, England for a great many years was master of the Mediterranean. At that time, probably, this was necessary for the scheme of England's empire; but now many distinguished statesmen are in favor of England's practically withdrawing from the Mediterranean, and allowing both Russia and France full sway there. In the English "World's Work," Sir William Laird Clowes has a most instructive article on the abandonment of the Mediterranean. Sir William points out that in the recent naval manœuvres in Levantine waters Great Britain had no fewer than twenty first-class battle ships, twenty-two cruisers, and twenty-one torpedo-boat destroyers, besides torpedo-boats and other miscellaneous vessels, compared to which the French Mediterranean fleet is insignificant, as is the entire Italian navy.

In time of peace, he holds, it is unnecessary for Great Britain to maintain such a powerful fleet in the Mediterranean; in time of war, the Mediterranean would be unsafe for the transport of troops to India until the French were cleared out, and the risk was no longer incurred of British transports being at the mercy of French torpedo-boat destroyers and fast cruisers. His conclusion, in short, is that in time of war the Mediterranean route to India must be abandoned and the alternative route of the Cape selected. Nor does he agree with some authorities that it is necessary for England to hold the Mediterranean to protect Egypt. Suez is much nearer to Bombay than Alexandria is to Portsmouth, and therefore Egypt is more easily protected by the Indian army than by the despatch of white troops from home. Sir William Clowes holds that England has really little interest in the Eastern question, and should leave the future of the Sultan's inheritance to be decided by the two powers that ultimately will decide the matter between them, Russia

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and Germany. England's Eastern question is to be found farther to the Eastward; and for England it is more important that Russia shall not come down to the Arabian Sea and the Persian Gulf than it is whether the Crescent or the Eagle flies over Constantinople.

In view of the vast interests of the British Empire, which have made of England "an African power, an American power, an Asiatic power, an Oceanic power, a world power, if you will, but hardly more of a European power than Japan or the United States," Sir William thinks that England might very well retire from the Mediterranean, and make a deal by which she could strengthen herself elsewhere. By giving up Malta, for instance, which is of little value to England for military purposes, to Italy in exchange for Italian Somaliland, both sides would gain; and by yielding other Mediterranean possessions which have now lost their importance to England, but which other nations are anxious to obtain, the Empire's strategical position would be fortified. The thought of Russia coming into the Mediterranean does not disturb Sir William. Instead of Great Britain having to maintain huge fleets in the Mediterranean and the Channel — which is now her policy, because the English naval plans are predicated on the assumption that she must be able to overmatch France and Russia, combined, both in the Channel and the Mediterranean — England would simply have to watch the two exits from the Mediterranean into the two great oceans, at one end the Straits of Gibraltar, at the other the Suez Canal and the Red Sea. Both are narrow and easily watched. By closely guarding these two exits a more effective and economical control could be exercised, and hostile fleets could be bottled up, unless they were willing to come out and fight in the open.

While Russia appears to have her hands full in regulating the affairs of the Turkish Empire in Europe, and in more or less openly defying England in the far East, she is not idle in China, and has strengthened rather than weakened her grip on Manchuria, despite the promises made, when the allies retired from Pekin, that the evacuation of Manchuria was a thing to be witnessed in the near future. The Russians have opened at Dalny a special custom-house, which is independent of the imperial maritime customs administered by Sir Robert Hart. This new plan gives Russia control of the customs throughout Manchuria, and makes her practically master of the situation. The only way by which she can justify her action is to admit that Manchuria has been alienated from the Chinese Empire and has become a Russian province.

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The other nations protested against the establishment of this custom-house by Russia; but the protests were unheeded, and China, as usual putty in the hands of Russia, not only raised no objection, but, on the contrary, gave the scheme its approval.

Recent newspaper advices are to the effect that Russia has determined to strengthen her fleet greatly in the far East, and before spring there will arrive at Port Arthur five first-class vessels. When these ships are in Chinese waters Russia will have at her command in the far East six first-class battle ships, four armored cruisers, five unprotected cruisers, and twelve seagoing torpedo-boats, besides smaller gun-boats and torpedo-boats. The majority of these ships are modern vessels; and if this report is correct, Russia will have in Chinese waters a squadron superior to either that of Great Britain or Japan. Russia's purpose in reinforcing her squadron is not obvious, but this move will undoubtedly make England and Japan still further increase their naval forces in those waters. The combined Anglo-Japanese fleet is superior to that of Russia, but it is the policy of both nations to be alone stronger than that of their possible opponent. Japan especially is increasing her navy as rapidly as her circumstances will permit, and the sending by Russia of additional battle ships to the far East will cause Japan to place additional orders in European dockyards.

Germany has loomed large before the world during the last few months. Her participation in Venezuelan affairs, so far as it relates to American politics, may be properly left to my colleague to be dealt with in another department. Here I refer only to the Venezuelan matter as viewed through European spectacles and as affecting European politics. In Europe the belief is generally entertained that the aim of the diplomacy of the German Emperor where it touches the United States is to prevent a close and cordial understanding between this country and Great Britain. Those German and other Continental papers that make a study of the foreign policy of Germany give as the explanation why the Emperor encourages hostility between the United States and Great Britain his belief that if those two powers are alienated Germany will profit both politically and commercially. Germany's diplomacy since the effacement of Prince Bismarck has been commercial rather than political. By this I mean that every move made by Germany has been with a purpose to increase her commercial prestige, and to make her richer, more prosperous, and of greater importance both at home and abroad. In doing this she has used every political weapon that she has

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been able to obtain; and although at times it has appeared as if her purpose were solely political, yet if one closely studies the newer German diplomacy and sees what the results have been, he cannot fail to be convinced that the German Emperor has closely patterned after England's example, and realizes that commerce measures a nation's strength.

In the very nature of things, Germany and the United States are bound to clash at various points of contact. In the first place, they are strong commercial rivals, and both countries pursue a similar economic policy. It would not be true to say that the tariff policy of the United States is directed against Germany rather than any other country; but the American protective system is frequently a lash of scorpions to Germany, and Germany, on her part, is never reluctant about enacting a tariff which shall make it more difficult for the American manufacturer and producer to obtain control of the German market.

One reason why there is always a possible danger of friction with Germany, so long as present conditions remain as they are, is the almost frenzied desire of Germany to obtain a lodgment in South America, a question which was discussed in the last number of this magazine. In the January number it was also pointed out that Germany is on the eve of a tremendous political struggle. In June of this year the general election will take place, when the intense and bitter feeling of hatred between the classes and the masses will find vent at the polls. Socialism is to-day stronger in Germany than it ever was, and the Socialists more bitterly detest the ruling classes, the Emperor, the aristocracy, the bureaucracy, and the army, than ever before. In Germany at the present time two great parties are composed of extremists. At the one end are the Socialists, who are always willing to fight, who clamor for reforms, who oppose the high tariff because it increases the price of bread and adds to the fortunes of the great landowners, who would sweep the army and compulsory conscription out of existence if they could, and who have no love for the institution of monarchy. At the other end is the Centre or Catholic party, a party of reaction, whose leading men are intolerant, who would throttle the press and keep the people in subjection under the iron heel of the army. The Socialists now have fifty-eight members of the Reichstag, and confidently expect the election in June to add considerably to their numbers. The Centre party is also looking forward to gains which will be made at the expense of the Conservatives. In the German Reichstag there are almost as many groups as in the French chamber, and in addition to the Socialists one finds Radicals and members of the People's and the Union parties. These,

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while affiliated with the Socialists and generally believing in their tenets, do not belong to the Socialistic party proper, and are factions independent of them. In days gone by, the German Radical party was a force; but of later years it has lost its power, and its place is now taken by the Socialists under the lead of such men as Bebel and Singer.

Germany is continually engaged in a war of tariff reprisals with Europe, principally with Russia and Austria. She obtains from Austria her barley, out of which she makes malt; and from Russia her rye, which is largely used by her people for bread. Although forced to import a large part of her foodstuffs from the United States as well as from the European continent, Germany places the highest possible duties on the prime necessities of life, because she looks upon the tariff as the most effective means to enable her to obtain both political and commercial concessions from other countries. An accession to the Socialist ranks in the next Reichstag, and a further agitation for a reduction of the tariff, which will be combated by the agrarians and the Centrists, may lead in the future — not immediately, but in the course of the next few years — to a state of affairs that would threaten the stability of the empire. The Emperor is known to believe that a vent for much of this discontent is the acquisition of over-sea colonies, to which the German could emigrate and still remain a German; and these colonies, he hopes, will become a valuable commercial asset. Although the German Emperor dislikes England and his English relatives, he is immensely impressed by England's wealth and might. He has noticed with ill-concealed chagrin that while England can send her surplus population to Australia and Canada and South Africa, where they remain Englishmen and are a source of strength to the mother-land in the day of her trouble — as was impressively demonstrated during the South African war, when every section of the Empire contributed its contingent in support of the national defence — the German who leaves the Fatherland goes to the United States, where he soon becomes an American and ceases to be of value either as a commercial unit or a military factor. That is the main reason why the aristocracy of Germany, the *Junker*, the Emperor, and those near to him, are seeking colonies; and they know that the only possible opportunity is to be found in South America.

Official denials may be accepted for what they are worth; but the press of a nation is more often an intelligent guide than the carefully-worded statements of high officials, when motives of policy compel them to conceal their real object. A translation made for the "Literary Digest" of an article in the "Kölnische Zeitung" is worth the serious con-

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sideration of thoughtful Americans. The "Kölnische Zeitung" urges the necessity of the German element in Brazil being organized without delay into a German political party. It regrets the unfortunate fact that Germans who become prominent in Brazilian politics cease to regard themselves primarily as Germans; but it rejoices that, since suffrage has been conferred upon foreigners, there has come about a change for the better. It notes with pleasure that in Santa Catharina the first Republican Governor bore the true German name of Müller, and that the present Governor, Felippe Schmidt, shows in his name a German origin. "Both are native-born Brazilians whose fathers came to the country from Germany. They are firm friends, but they cannot be looked upon as Germans since they know no German, or claim to know none — perhaps to avoid becoming objects of suspicion to their Brazilian party associates. As long as a German speaks his own language he remains a foreigner to the Brazilian, even if he be Brazilian born." In conclusion, the German organ congratulates the Fatherland upon the fact that there are in the State Legislature of Santa Catharina five Germans, who are Germans in speech, thought, and training, and who never lose sight of the distinctively German interests. Colonies are useless, from the view-point of German officialdom, if the German ceases to be a German and becomes absorbed in the native population; they are only valuable when a new Germany is established across the seas, and when German thoughts, the German language, and German political control are dominant.

No less a distinguished man than Prof. Theodore Mommsen, the illustrious German historian, has contributed his share to denouncing the present state of affairs in Germany and calling attention to the peril that faces the Empire. Every party in Germany, he says, is one of revolution. The liberals, as well as the clericals, the agrarians, and the socialists, are trying to destroy the constitution and bring about a revolution. Prof. Theodore Mommsen takes a gloomy view of the outlook, and it must be conceded that he is justified in his feeling of concern. Germany is on the eve of a great social struggle, the outcome of which it would be presumptuous to try to predict.

Parliament having been in recess since my last paper was written, English politics have been quiet, and the attention of politicians and the public generally has been directed toward this hemisphere by the course of events in Venezuela. The practical effect of that debt-collecting excursion has been to make manifest the intense hostility of the English people against Germany, and to make Englishmen understand

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the spirit and intent of the Monroe Doctrine. Fortunately for the present British ministry, its opponents are deficient in resource and without constructive statesmanship. Did they possess those qualities and were they led by a leader of ability, the Government's Venezuelan adventure might have been fatal. Mr. Balfour was born under a lucky star, and his luck once more saves him. Practically every newspaper in the United Kingdom and every man of prominence denounced Lord Lansdowne for having blundered into the German alliance and for risking a rupture with the United States for the sake of currying favor with Germany. Never were the British people more genuinely friendly to the United States and more firmly resolved to maintain the most amicable relations with their American kin, and it is because of this feeling that their indignation was aroused by the action of the Government in having allowed itself to be made a cat's-paw by Germany.

The Monroe Doctrine has always been a nebulous and mysterious thing to the average Englishman, and even writers and statesmen have only vaguely grasped its significance. The Venezuelan affair has at least made Englishmen more clearly understand the meaning of a doctrine which is elastic enough to be construed by Americans as the exigencies of the occasion may demand. The most elaborate exposition of the policy of the United States in her relations with the powers of the Eastern and Western hemispheres appears in "The National Review" for February, written by Captain Mahan. The United States, according to him, will not acquiesce in any assault by a European State upon the independence or territorial integrity of an American State; neither will she countenance by her support any shirking of their international responsibility. That declaration English publicists do not quarrel with; but they do not accept his dictum that the United States will not undertake to compel the South American States to observe their international obligations to others than herself. English writers contend that if the United States assumes the rôle of the protector of the South American States by preserving their independence and territorial integrity, she virtually assumes an obligation to all the world that she will compel those States to observe their international obligations and to be governed by the canons of civilized intercourse between nations. Englishmen have no quarrel with the Monroe Doctrine and have no desire to nullify or infringe upon it, but they do not agree with Captain Mahan that the States of the American Continent can invoke the Monroe Doctrine as a cloak behind which they can shelter themselves and in the security of its folds escape from the penalty of their misdeeds.

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Mr. Joseph Chamberlain, the Secretary of State for the Colonies, is now on his way back to London after his tour of South Africa. It is impossible to determine at the present time what he has accomplished, or whether he has really gained anything by his long and arduous journey. His admirers and the British public generally believe that much good will result from his personal investigation of affairs, and that, knowing the problems to be solved, he will be able to formulate a policy that will wipe out the remaining vestiges of bitterness caused by the war and heal the sores that are still festering. In his public speeches, as well as in his contact with Afrikanders, Cape Dutch, and loyal Englishmen, he has shown so much moderation, conciliation, and intelligent sympathy, as well as a grasp of the needs of the conquered colonies, that he has undoubtedly done much to fuse antagonistic elements, which promises well for the future. But in England as well as in South Africa are men of experience who are pessimistic, and who fear that racial antipathies are so great that it is almost impossible to hope that this generation will see Boer and Briton real friends and loyally working together for the best interests of the Empire of which they are a part.

The questions still remaining to be settled are many and most important; but the average Englishman feels that if Mr. Chamberlain is unable measurably to restore order out of chaos, no other man is capable of grappling with the task, which must remain undone because it is too great for human accomplishment. Most of the former Boer leaders when they surrendered accepted the fortunes of war and determined to be as earnest in the promotion of peace as in the past they had been valiant on the field of battle. The influence of these men is, of course, very great among their followers. But there are certain irreconcilables who are still sullen and defiant, and who have not accepted the inevitable; in fact, they look forward to the time when they can once more raise the standard of revolt. How much influence they will exercise upon their fanatical and ignorant followers no one can tell.

Still another source of anxiety is the bitter hatred that the war developed between the Cape Dutch and the English of Cape Colony. The Dutch of the Cape, although living under English rule and legislating for the colony, were largely in sympathy with the Boers and the Orange Free Staters, and would undoubtedly have openly declared in their favor had they not been afraid of the consequences. If the English of the Colony had their way, they would disfranchise the Cape Dutch and deprive them of all power, and practically keep them an alien and subordinate race. Mr. Chamberlain, however, has shown his statesmanship

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and broad comprehension of the future by steadfastly setting his face against that policy, and, on the contrary, doing whatever lies in his power to bring Dutch and English closer together. He has tried to induce them to forget the past, and to make them understand that the welfare of individuals, as well as the welfare of the country, can best be attained if they will allow the memories of the past to be effaced and only permit themselves to think of all that the future holds in store for them — a future to make the world marvel if they will face it with resolution, courage, and charity.

A. Maurice Low.

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FINANCE.

In financial affairs the beginning of a new year is a period when a pause very naturally occurs in which one may take bearings for the future. Probably this would be so, even as a result of the stock-taking and reckoning-up of profits which attend that period in the calendar. But there are other reasons, apart from the influence of the year-end balance-sheets, why the period is important for measuring financial tendencies. By that time, all the harvests have been gathered in the Northern hemisphere; and the yield of grain-producing countries and the probable needs of consuming States have fairly revealed themselves. The drain of currency from the cities to the farms, in order to pay the harvest-hands, is past. The reapers have received their wages; they have made their purchases or lodged their left-over money in the savings banks. The currency sent to the interior, by tens of millions, to "move the crops," has drifted gradually into the country banks, and by them has been sent to the great city depositories, which will pay interest on it. Even the sudden movement of the circulating medium, known as the "Christmas demand" — an influence by no means to be ignored, since it takes from bank reserves and puts into temporary hand-to-hand circulation many millions of dollars in current funds — has run its course.

From that time forward the normal tendency of currency is toward the city markets. Eastern banks, which have been curtailing loans and liabilities because of the West's recall of cash reserves, find themselves gradually in an easier position. If a total of three or four million dollars returns to them weekly, in the form of specie and legal tender notes — a moderate normal estimate — they can expand their loans some sixteen millions weekly without reducing their surplus over legally required reserves. Borrowers, therefore, whether in the Stock Exchange or elsewhere, can look for accommodation which was denied them by the banks in December and November. The money rate in Wall Street falls — a movement which is merely an outward witness to the fact that plans abandoned because of "tight money" in the preceding months may be resumed. Along with all this comes the period of the "January dis-

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bursements," when the corporations which have fixed on this month for periodical payment of dividends or interest disburse in this country, according to the estimate, an actual sum not far short of $150,000,000. A substantial part of this large sum is used by its recipients, of course, for payment of debts and current expenses undertaken in expectation of this January income. A part also is lodged in the savings banks, or invested in land purchases, mortgages, or merchandise. But after these deductions, there remains a very considerable sum of free capital whose natural destination is the very securities from which the increment was derived. Therefore, the Stock Exchange watches, after January 1, always with interest and sometimes with solicitude, for the "reinvestment demand."

Taken by itself, no particular interest would be attached, except by other investors, by brokers, and by speculators, to such a movement. The great governing forces in finance — the consumption of merchandise, the profits of trade, the relations with foreign markets, and the volume of transportation — are not in the least affected by the number of shares or bonds which the "outside public" buys on the Stock Exchange in the month of January. But if the trading in securities is not a cause, it is at all events an index. The "outside public" is commonly pictured, to the Wall Street mind, as a body of several million well-to-do individuals, of varying occupations, each of whom has to invest a moderate amount, and all of whom, taken together, make up a formidable force in the investment market. This is not wholly an incorrect idea. It was no doubt to this scattered army of investors that the elder Rothschild referred in his well-known saying that the most powerful capitalist in the world could not hold prices in the face of a counter-movement by the outside public. But a very large part of the new capital thus employed, and a most effective part because of its concentration, consists in the accruing revenues of the great capitalists — the men who are most in touch with the real movements and tendencies of finance, and whose use of their capital, therefore, fairly voices expert belief regarding the financial future.

The year 1903 opened auspiciously, so far as regards the amount of business done on the investment markets. In fact, the first ten days of January were marked by transactions on the Stock Exchange which rose to a volume so enormous as to suggest reminders of last May or of May, 1901. In the first full week of January 6,300,000 shares changed hands on the New York Stock Exchange, as against 4,100,000 only in the same week the year before. At the end of this ten-day period, however, a

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certain unsteadiness became visible in the movement, followed promptly by immensely heavy sales at the higher prices of the very stocks which had been advanced with such rapidity. During the week preceding, all sorts of rumors of extensive railway combinations had circulated in Wall Street; and the speculator's mind, dazzled by the resemblance of this movement to that of 1901, had really begun to think that another outburst of the same kind was at hand.

The instant, however, that it was seen that selling was in progress by the very people who had been putting the market up, the nature of the opening transactions of January was understood. People who had been holding back their stocks, to take advantage of the rise which they expected, hurried in to sell. The market at once gave way; but, what was of more significance, all the appearance of great activity which had characterized the opening of January disappeared. It was plainly evident that the extensive movement at that time had been stirred up simply to create a market on which to sell. From the daily trading of more than a million shares, which characterized the opening week of January, business on the Stock Exchange fell to almost midsummer inactivity. The 6,300,000 share record of the first week of January declined to a total of 3,700,000 in the second week, to 2,500,000 in the third, and to an even 2,000,000 in the fourth. This was an average of less than 350,000 shares a day; and, although such Stock Exchange business would have been considered large five or six years ago, it represented great inactivity on a market which had so broadened in amount of transactions and number of shares dealt in as has the Stock Exchange of the present time. Furthermore, it became perfectly evident to all watchers that the great bulk, even of these 350,000 daily shares, was the work of the class of financiers known as professional operators — people who spend the day on the Stock Exchange and buy a block of stock merely for the purpose of selling again within twenty-four hours if possible. Of the general public there seemed to be no trace whatever.

In the main, this experience fairly duplicated that of the opening weeks of 1902. It suggests the inquiry, however, as to what had become of the reinvestment demand which was normally to be expected. That an enormous mass of capital had been released through the January dividends, and that much of this capital would naturally flow back into Stock Exchange securities, there was no reason to doubt. The question therefore arose as to what had become of this normal investment demand by the general public. Several answers have been given to this question, the most convincing of which is that a very large portion of

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this outside public bought stocks during the break of prices in December. This break occurred two weeks before the January interest payments were due. When it occurred, the market was in such a position that professional operators were unable to obtain the money to make their purchases. Exactly in the middle of December, however, came the announcement of the banks that they would stand together sufficiently to prevent any serious disaster. With this announcement there was a rush of buyers into the Stock Exchange, under whose influence prices recovered with real violence. Advances of ten or twenty points in the price of stocks were nothing uncommon during the closing fortnight of December. Inasmuch as this buying could not well have come from mere professional operators, it is only reasonable to suppose that the buyers were outside capitalists who were able to secure the funds to purchase them in anticipation of the capital of their own, which was bound to fall into their hands after New Year's Day. But if the reinvestment demand had been anticipated, it followed, of course, that disappointments must be encountered when the usual time for that demand to show itself arrived. This is exactly what has happened.

Further than this, there can be no doubt that the intelligent outside investors were perplexed over the situation, and were not disposed to be hasty in the placing of their funds until they could get some clear idea as to the probable future developments, both in Stock Exchange prices and in the general situation. As regards the question of prices, it must be admitted that the situation was unusually perplexing. It is probably safe to say that the idea was unanimously held among thoughtful financiers at the close of December that the supply of securities pressing on the market had outrun the public's normal demand. To put the matter in another way, production of stocks and bonds had greatly outstripped consumption, and the market had to wait until the slower and gradually consuming process could have its influence. Basing their conclusions on these facts, some of the most experienced financiers in Wall Street declared in private, without hesitation, that the interest rate in the broadest sense was bound to rise. As it was commonly expressed, this prediction was to the effect that securities which had been selling on a four per cent basis would have to shift to the basis of four and one-half per cent. This, of course, was only another way of saying that stocks must fall to a permanently lower level, since the only way in which a security yielding but four per cent net to the investor can be made to yield him four and one-half is through lowering the price at which he may purchase it.

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There were, in addition, numerous more or less pessimistic predictions made regarding the outlook for the general situation, with reference not so much to the conditions of general trade as to the situation of the money market. A symposium of opinions, written by well-known practical experts on finance, and published on December 31, drew forth all these varying views, and in particular developed substantial unanimity on the question of the outstripping of demand for securities by supply. One of the statements of opinion published at that time which attracted particular attention was that of Prof. Sumner, of Yale University, who expressed his view concisely to the effect that he looked "for continuous and enlarged prosperity," believing that "the economic outlook is as good as possible." But it was noteworthy that even Prof. Sumner added that he expected to see the rate of interest rise in the next few years, meaning by this that the yield on investment securities would increase and, presumably, that their price would fall.

I have said that such misgivings as existed regarding the season's financial developments converged on the money market. This was not the cause of apprehension that money would go to high figures at the opening of the year. On the contrary, the very conditions which I have reviewed were such as to favor low rates for money. That is to say, demand for speculative purposes on the Stock Exchange, which is often the most important factor in the money market, had, as we have seen, almost entirely vanished. The result of this was decrease, very largely, in the normal demands on the money market. Furthermore, supplies of loanable funds were certain to increase: first, by release of corporation dividend moneys; and, second, by the return of currency which had served its purpose for the harvest. For reasons which have already been set forth in these pages, currency did not move back from the farther Western points as rapidly as usual. But lack of remittances from points west of Chicago was made up by very large returns of currency from near-by points to New York City.

There was presented, therefore, a situation in which a large part of the traditional demand for money had been removed, while supplies of capital were being substantially increased. This should have been reflected in a steady strengthening of the New York bank situation, and as a matter of fact that position did increase in strength during the month of January. All this increasing show of strength, however, was offset by the enormous demands of great corporations on the money market, and the consequent rapid rise of bank liabilities. In the six

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weeks following January 10, loans of the New York banks were increased no less than $78,566,000. The figure touched on February 28 — the maximum of the season — was $950,208,700, and this figure broke all records in the history of New York banking. Until the third week of February, high record for the New York loan account had been $938,195,000, in March, 1902. As we have seen, it was not the Stock Exchange whose borrowings raised the loan account at this rapid rate. Borrowing for general trade, while no doubt particularly active with the prosperous business season, had made no such exactions on the banks as this. To explain so enormous an expansion of the credit fund, some other influence ought to be sought. Fortunately there was no doubt as to the cause. A number of very extensive railway operations, which at this time were brought to a partial head, called for a large supply of ready capital. For this they applied to the New York banks at the opening of 1903.

These railway borrowings have proceeded from various sources, and have been made for various purposes. A recent estimate of the amount of new railroad securities overhanging the market figured out that issues lately authorized, but only partly placed in the investment market, footed up $106,000,000, while authority had been also granted by shareholders for further stock issues aggregating $205,000,000. Thirty or forty millions were borrowed outright on notes during January, from the New York banks, by the Lake Shore and Pennsylvania railway companies, to buy control of the Reading Railway stock. In addition to this, the Pennsylvania Railroad early in the year sent out to its shareholders an announcement that at the annual meeting on March 10 the directors would ask authority to raise, through issue of new securities in their discretion from time to time, $150,000,000 in new capital. Its officers announced that upwards of $60,000,000 would be needed immediately, to increase the company's motive power, to double the track facilities between Pittsburg and the Eastern seaboard, and to start new work on terminals. At the March shareholders' meeting, this authority was unanimously voted.

Now there are two points to observe in connection with these operations. In the first place, the purposes for which this capital has been asked have varied considerably. It may be said, to begin with, that there was at the opening of this year imperative necessity for the raising of large sums to put the railroads in proper physical condition. This was true for two reasons: The tremendous traffic of the last two years had used up rails and rolling stock as rapidly as machinery of a mill is exhausted

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during times of maximum production. But more than this, demand for immediate transportation in this country had increased with vastly greater rapidity than any one had foreseen. Had there been any doubt on this point at the close of 1902, it was dispelled by conditions which existed at the opening of 1903.

What happened then was a blockade of railroad transportation facilities in the Middle West, so complete that during five or six weeks two of the largest railways found it practically impossible to take new freight and guarantee quick transportation for it. This blockade, which centred at Chicago and Pittsburg, was radically different from that of 1899, and in most respects much worse. In 1899 it was scarcity of cars which made it impossible to move freight speedily. In 1903 it was insufficiency of tracks, and actual lack of motive power such as could haul the trains which awaited transportation. It should be clear that the solution of such a problem must involve expenditure greater by far than that made necessary where a mere shortage of cars exists. It is true, there had been ample warnings of the situation; but the expenditure requisite to provide against it was so great that railway managements were reluctant to ask such credits until convinced that existing conditions of trade would continue. Every cautious railway manager looked not only to the past and present, but to the future, and asked first whether it was not possible that the new equipment would be delivered only at the moment when demand for its use was waning. It was the enormously increased volume of such demands last winter which induced the railway managements to lay aside such scruples and ask at once for the necessary capital. To such needs should be added a still more expensive requirement for terminal facilities — a factor of great importance in the quick loading and unloading of trains delivered at a given point. In New York City, particularly, terminal plans of what may be fairly called an epoch-making magnitude insured continuance of demand on the money market's capital.

So much for what may be called the indispensable needs of the railways for new capital. There remained, however, after this, another kind of requirement, equally extensive in amount, though not so imperative as to time. This arose from the demands of railways desiring to purchase other connecting or competing properties; in other words, it was necessitated by the continuance of the deals and amalgamations which distinguished 1901 and 1902. One highly important development of this kind has been already mentioned. It was the purchase of a controll-

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ing interest in the Reading Railroad Company by the Pennsylvania and the Lake Shore jointly. This purchase, although undoubtedly arranged in large measure at the time when Reading stock was depressed by the miners' strike, nevertheless required immense supplies of capital. Something like $40,000,000 had to be placed at once in the hands of these two companies to consummate the deal. This was only one of several huge operations of this nature.

Now it should be observed that purchases of this sort had to be made immediately, and yet that sale of the companies' new securities to the public, through which the capital was finally to be raised, could not be carried out except with considerable delay. The consequence, in the case of these two companies, was that they came at once into the New York money market and raised the money on their notes. This was the immediate cause of the sudden and rapid loan expansion at the New York banks. Similar pressure on the money market was inevitable in the case of other railways carrying out similar designs. It is possible that even some of the money raised for improvements and equipment was thus borrowed in advance. Beyond even this, the fact remained that companies which had issued new securities, but had not yet been able to dispose of them to the general public, were forced to place them in the hands of syndicates, who in their turn borrowed the requisite capital from the banks. This simple fact will explain sufficiently why the amount of bank loans at New York expanded so violently at the opening of the year.

The following table gives a clear idea of this expansion, the amount of loans being stated at the close of each week up to the end of February, when the increase slackened:

Week ending	Loans.	Week ending	Loans.
December 27	$875,321,500	January 31	$904,510,700
January 3	875,352,100	February 7	924,958,600
January 10	871,642,100	February 14	936,233,400
January 17	886,054,100	February 21	950,208,700
January 24	890,448,100	February 28	950,156,300

These increased credits, with the consequent increase in bank liabilities, were made possible only by a very substantial increase in New York cash reserves. As a matter of fact, the gain in cash at the New York banks began with the opening of the year and continued through January. In this regard it followed precedent. For reasons already pointed out, money was certain to flow back to the city markets after the opening of the year, when it was needed no longer for the purposes

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of harvest. As a result of this, cash holdings in the New York banks increased from the sum of $223,037,600 at the close of last December to $260,825,500 at the end of January.

This $37,000,000 increase in five weeks occurred, then, as a consequence of two main factors: (1) Inflow of currency from the country markets of the East and Middle West; and (2) large disbursement of cash by the Treasury. The West, for reasons which have been hitherto pointed out, contributed relatively little, and its tendencies in this regard developed themselves more plainly at the opening of March. The situation changed, however, very radically at the close of January. Interior banks which had been sending large remittances of cash to the New York market found themselves then confronted with large requirements for revenue payment to the Government. Having these balances to their credit at New York they drew on their Eastern depositories, thus settling with the Government by means of cash paid out from the New York banks.

As a consequence, reserves at New York City declined with great rapidity, though at a time when the Government's surplus revenue was not particularly large. During the month of February, the decrease in cash holdings amounted to no less than $15,800,000. In the closing week of February, it was emphasized by a sudden and unexpected demand for quick remittance of currency to the farther West. It presently developed, in accordance with intimations given by Western bankers in the autumn, that the real estate operations in the farming districts, which had reached extensive magnitude, came to a partial settlement on March 1, and to finance these operations Western banks were compelled to strengthen their reserves. Accordingly they drew on New York City, with the result described. The upshot of the whole affair was that cash holdings of the New York banks declined $15,800,000 during February, and that the surplus bank reserve, at the end of the first week in March, was virtually exhausted. It fell to a trifle over $600,000 — the lowest figure for that date since 1890; and, with that exception, much the lowest since 1883.

Here was a puzzling situation. It was not by any means necessarily a presage of disaster, but it obviously meant that the process of providing for the country's real industrial needs could not be carried on so long as the corporations continued to lock up capital for pending "deals." Such a situation also explained with entire clearness why the Stock Exchange, even from the opening of the year, was unable to command the resources necessary to an expanded speculation.

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This notable situation, which was reflected, as might be supposed, by advance in money rates at the opening of February, called instant and very close attention to three factors in the situation: (1) The method of placing surplus Government moneys in the banks; (2) the question of reserves employed by the trust companies; and (3) the problem of the international exchange.

The question of Government deposits was brought suddenly to the front by a measure offered in the Senate, on February 6, by Mr. Aldrich. At the present time, the law which regulates public deposits in the banks provides that such deposits must be secured by Government bonds to an equivalent face value. Exhaustion of the available supply of Government bonds, last winter, brought a partial end to this process of relief, and was immediately the cause of the two announcements by Secretary Shaw discussed last January in these columns. In December of last year, the New York Chamber of Commerce adopted resolutions asking the Government to reform this system. Briefly summed up, these recommendations of the Chamber were to the effect that the Secretary be permitted to accept, as security for such deposits, bonds of States and cities under certain prescribed precautions, in addition to the bonds of the United States, and further that he be empowered to exact from banks with whom he made such deposits payment of annual interest at a rate of not less than two per cent. It was clearly shown, in these resolutions, that the Chamber had in view a process whereby banks, when their own supplies of currency should be inadequate, might have recourse to the Government, borrowing at the rate prescribed such sums as they required. It was distinctly intimated that this plan would have as its double use the averting of a money strain when currency was in demand, and the averting of a money market glut when such reserves, in the idle season, were no longer needed. The interest proviso was inserted with precisely this in view — a point of some importance when considered in the light of something which happened later, in the debate upon the bill.

A measure enacting this general proposition was introduced by Senator Aldrich during January. It provided that the Secretary of the Treasury should be allowed, in his discretion, to deposit public funds in bank on the collateral, first, of United States Government bonds; or second, of States of the United States; or third, of city bonds of certain prescribed record and character; or fourth, of first mortgage railway bonds where shares of the company had paid four per cent dividends for ten years prior to the deposit of the bonds.

The minimum interest rate to be required on such deposits was to

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be one and one-half per cent, which, it will be observed, was lower than that suggested by the Chamber. It should also be observed that the Chamber's resolutions did not contemplate the use of railway bonds. The Aldrich Bill, as the measure now was termed, met with favor generally in the business community. It was commonly supposed that the bill would pass with little opposition, and it was not until the closing week of Congress that positive opposition developed. This opposition took at once peculiar shape, coming from many sources. Congressmen from the smaller city districts at once demanded that the grading placed on acceptable city bonds should be lowered to suit securities of their own communities. Representatives from some inland banking districts objected to requirement of interest, on the ground that such requirement would reduce the amount of such deposits which the banks would agree to hold. In the House, some of the strong Committee-men opposed the adoption of the Aldrich Bill in any form, unless accompanied by a provision for an asset currency. Thus, within two days of the session's close, the situation reduced itself to deadlock, and in the end the bill was left to die. Perhaps the most unfortunate part of this result was that it left on the statute-books the obsolete law — a relic of fiat-money days — that customs, unlike internal revenue, could not be deposited in bank, but must be paid to the Treasury in cash. When the Aldrich Bill failed of enactment, the Government was taking from the New York banks $5,000,000 weekly. The immediate sequel to the failure of the bill was a serious stringency in the money market, and a sudden resort to European markets for relief. During March, such large amounts were hurriedly borrowed in this way that discount rates at every important European city were advanced.

I have already, in these columns, noticed the action taken a year ago by the New York Clearing House regarding requirement of reserves against trust company deposits. The Clearing House took no definite action for a year after its first resolutions were adopted. At the expiration of that time, on February 1, new rules were proposed by the Clearing House Committee, which made the following requirement as regards reserves of institutions clearing through the Clearing House:

Every non-member institution (not a bank required by law to maintain a specified reserve) now or hereafter sending its exchanges through a member of the association, shall, on and after June 1, 1903, keep in its vaults a cash reserve equal to five per cent of its deposits; and on and after February 1, 1904, such cash reserve shall be at least seven and one-half per cent of its deposits, and on and after June, 1, 1904, such cash reserve shall be such percentage as shall from time to time be fixed by the

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Clearing House Committee, but not less than ten nor more than fifteen per cent of its deposits. The reserve hereby required shall be an average reserve, as against the average deposits as shown upon its weekly statements.

A week later these rules were adopted by unanimous vote of the Clearing House membership. Their adoption, as it happened, was immediately followed by the introduction of a bill at Albany requiring in substance that trust companies should be subject to the same rules as State banking institutions in regard to the holding of reserve; that is to say, that institutions located in the larger cities should be required to hold in cash fifteen per cent of their deposits, and that the country institutions, technically holding the same amount, should be allowed to deposit half that cash reserve with city banks. This measure has not yet been acted on.

The adoption of these rules and the move of Albany legislators was immediately followed by an outbreak of vigorous discussion of the merits of the question. Into these arguments pro or con it is impossible here to enter at great length. Briefly summed up, it may be said the Clearing House contended that the institutions using its facilities held $447,000,000 deposit liabilities, against which they maintained virtually no cash reserve whatever, and it concluded that a situation of this sort was certain to be dangerous in a money crisis. The spokesmen for the trust companies argued that the substantial sum of cash deposited by the trust companies in bank really amounted to reserves available as cash left in the hands of banks. The opinion of the financial community as a whole seems to have been that this argument was fallacious, from the fact that it assumed as a full reserve against the companies' own deposits a re-deposit which, changed to a liability on the books of the banking institutions holding them, was guarded only by the twenty-five per cent in cash maintained by the banks against their own liabilities.

As the matter stands, the Clearing House requirements will be carried out, except so far as trust companies clearing through that institution choose to adopt some other means of settling checks. To what extent such expedient will be adopted, it is impossible just now to say. There seems to be less probability of such a recourse than there was some months ago. On the other hand, this interesting question has arisen: The position of the money market being as it is, what would be the consequence of such substantial cash withdrawals from the market? It should be obvious that the trust companies, in establishing next June their five per cent reserve against deposits, will be obliged to take that sum from company reserves. If the deposits of the institutions were at that time to be $400,000,000, then $20,000,000 in cash would

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necessarily be transferred, on or before June 1, from bank vaults to the vaults of trust companies. One of the main contentions of opponents of the plan was that withdrawal of such sums would seriously derange the money market. To this the Clearing House authorities made answer that the time allowed for preparation ought to prevent any such derangement. Of this, stated as a general principle, there can be little doubt, since banking institutions have the power of calling cash reserves, when legitimately needed, from numerous other quarters. It is proper, on the other hand, to add to this that the new situation, thus very rightly brought about, imposes upon the banks, as well, the responsibility of strengthening their own position before the time for such withdrawals by the trust companies arises.

I have mentioned the movement of international exchange as one of the salient influences of the quarter. This market has disappointed most of the expectations entertained regarding it. At the close of 1902 it was rather unanimously predicted that exports of gold in settlement of our large indebtedness to Europe would result almost immediately. This would have been no unusual phenomenon. In January, 1902, this market sent $1,500,000 gold to Germany; in January of the previous year, $8,000,000 went to France. This season's market for exchange, however, has been managed with the greatest skill, and prevention of gold exports was made possible through a careful series of international operations in the money market. When, as happened at repeated intervals, sterling exchange went close to the gold export point, New York bankers would borrow in Lombard Street, using the consequent drafts as a means of holding down exchange. At reasonably frequent intervals, sales of exchange would occur against shipments of wheat, corn, and cotton, as a result of which sterling would fall half a cent or more, and make possible the buying back by bankers of the exchange which they had sold to hold the market. As a result of this ingenious balancing of the markets, no gold was sent to Europe during the first two months of 1903. At the close of February, when the money market rose in response to the fallen bank reserves, European capital flowed freely into the New York market, and exchange fell far below the gold point.

I have spoken of the influence exerted by the shipments of grain and cotton. It remains to be said, in this regard, that wheat shipments, since the opening of the year, have hardly kept to the level of the period

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in 1902, but that corn has increased very heavily. Shipments of both commodities would undoubtedly have been larger but for the trouble with transportation facilities, to which I have referred already. The corn export movement, which is a matter of special interest, may be judged from the following table, showing the exports in bushels for each week in January and February:

Week ending	1903.	1902.	1901.
February 27	2,368,939	312,664	4,185,449
February 20	3,739,457	267,830	3,267,668
February 13	1,830,170	527,366	4,760,422
February 6	2,400,316	169,145	4,997,813
January 30	2,045,999	427,018	3,007,707
January 23	2,376,683	179,520	3,972,152
January 16	2,394,612	298,093	5,184,550
January 9	2,856,986	136,873	4,897,345
January 2	2,537,542	270,236	4,470,521

In January, as a whole, export of breadstuffs footed up to $6,000,000 above the same month in 1902. In cotton there was a decrease of some $700,000 for the month.

The influence of the trade situation cannot, however, be adequately judged without summing up the whole trade movement. Since the last article was published in this magazine, the full trade statement for the calendar year 1902 has been made public. Its showing was what had been expected. The following comparisons will show in brief the great change which had come over our annual accruing foreign credits since our maximum imports in the year 1900:

	Exports.	Imports.	Excess exports.
1902	$1,360,696,355	$969,270,009	$391,426,346
1901	1,465,375,860	880,419,910	584,955,950
1900	1,477,946,113	829,149,714	648,796,399
1899	1,275,467,971	798,967,410	476,500,561
1898	1,255,546,266	634,964,448	620,581,818
1897	1,099,709,045	742,594,229	357,113,816
1896	1,005,837,241	681,579,556	324,257,685
1895	824,860,136	801,669,347	23,190,789
1894	825,102,248	676,312,914	148,789,307
1893	876,108,781	776,248,924	99,890,857
1892	938,420,660	840,930,955	97,489,857
1891	970,509,646	828,320,943	142,188,703
1890	857,502,548	823,397,726	34,104,822
1885	688,249,798	587,868,673	100,381,125
1880	889,683,422	696,807,176	192,876,246
1875	510,947,422	503,162,936	7,784,486
1870	403,586,010	461,132,058	*57,546,048

* Excess of Imports.

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As compared with 1901, it will be observed that exports had decreased $104,679,000, while imports increased $88,850,000. Inasmuch as these figures refer to the period before the quarter which I am reviewing, it will be necessary only to remark that conditions, at the opening of 1903, favored substantial increase in the exports but gave little reason to expect that the import trade would decrease. This expectation has been realized. Figures for the month of January show that exports in that period increased nearly $5,000,000 over 1902, and fell only $2,200,000 short of 1901. But, in the mean time, imports rose nearly $6,000,000 over 1902, and not quite $16,000,000 over 1901. The net result was an excess merchandise of exports over imports, during January, 1903, amounting to $48,931,061, as against $50,006,988 in 1902 and $67,018,521 in 1901.

This rather striking showing adds interest to the study of the details of our trade in January. These have just been published at the time of writing. They show, as had been foreshadowed, an increase of more than $7,000,000 in our January exports of agricultural commodities, but a decrease of $2,600,000 in our shipment of manufactures. There is reported an increase of $5,000,000 in import of unmanufactured materials, of which $3,000,000 was made up of iron and steel. It will thus appear that the volume of our home consumption has been such that, even with an enormously increased receipt of raw material from abroad, we have been able to spare less of the resultant manufactures for our foreign markets. It may be added that this January decrease in our exports of manufactures was the first of such declines in any month since May, 1901.

In some degree, the decrease of our export trade and the increase of our imports resulted from rise in American commercial prices. At the opening of March, it could be said that, in general, grain of all kinds was selling at lower prices than a year ago, and not much, if any, higher than at the opening of 1903. This was to be expected with the harvest of last year what it was. With metals a wholly different situation has existed, and the same may be said of cotton. Iron advanced in February, and in March was selling at $24.25 per ton, as against $18.00 at the same date in 1902. Tin, which had opened the year at 26.57½, and which had sold in March last year at 25.25, rose in March to 30.75. Copper, after a year of low prices and fluctuating values, started the present year at 12 cents a pound, and by the middle of March was up to 15, which was not only the highest figure of 1903, but was higher than any reached in 1902.

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In cotton, similar conditions prevailed. Last March the price was 9 cents a pound at the opening of the month; at the opening of March this year it reached 10⅜. This rise in cotton, which in the month of February reached to proportions of an excited speculation, came as a consequence of suspicions that the crop of 1902 would fall short of supplying all the world's consuming needs. In fact, the enormous use of cotton in our manufactures and the growing demand for the commodity in foreign trade drew down supplies at all American markets until the price was forced up in response to it. It may, indeed, be said that all the price advances just referred to came in response to strong and urgent demand for the commodities, which drew so heavily on supplies as to make at least a temporary rise in prices logical. The price movement, during the rest of the year 1903, is likely to be a most interesting chapter of economic history.

We have seen with what skill a heavy loss of gold from the New York money market was averted. This was fortunately made possible through ease of money on the European markets. Until demands from Western points on New York's currency supplies arose in March, the home situation was kept in equilibrium by this process. This Western demand is of especial interest in view of its connection with an extensive real-estate speculation in the West. Of this it will be possible to say more hereafter. The money called from New York City was unquestionably used to strengthen reserves at Western banks, on whose shoulders fell the task of financing these operations. Clearly, the use of bank notes would not satisfy the needs of the occasion; and for this reason it was not remarkable that bank circulation, after completion of the harvest, should have slowly decreased. On January 1 of the present year, outstanding bank notes reached the highest figure in our history, that figure being $384,929,784. At the close of January the amount had fallen to $383,973,546, and by the first of March it had dropped to $382,798,845.

In some degree, it should be added, this decrease in the bank-note circulation was occasioned by the action of the Treasury, which in the second week of January announced that banks which had substituted city bonds for Government securities as collateral on Government deposits must now replace the Government bonds in such collateral. The substitution, it will be recalled, took place under Secretary Shaw's ruling of September 29. It was clearly a measure of emergency, and was permitted only on condition that the Government bonds withdrawn should at once be used as collateral for new bank circulation. Replacement of

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these bonds, of course, involved their withdrawal from the collateral on bank notes, and the decrease in bank circulation followed naturally.

Only two other incidents of the quarter remain to be discussed before ending this article. Little need be said regarding the anti-trust legislation in Congress. Indeed, that matter belongs more properly to the history of Congress. Nothing resulted from the various propositions for controlling trusts except the bill of Senator Elkins, prohibiting under a fine the granting of rebates by a railroad to a corporation or the receiving of such rebates by the corporation. This measure attracted slight attention in financial quarters, and among railways was regarded generally as a desirable innovation.

A word may be said regarding the final decision of the New Jersey Courts in the matter of the Steel Corporation's bond plan. The final litigation in this matter was directed immediately toward the participation of directors in a syndicate plan for managing the conversion. The lower court had granted an injunction; on February 18 the Court of Errors, in a careful judgment, reversed the ruling of the lower court and dissolved this final injunction. All legal obstacles were by this action removed from the conversion of the $200,000,000 steel preferred stock into bonds. During the year in which this litigation had been pending, some rather striking changes in the situation had occurred, and it was possible to say, when the decision just referred to was made public, that necessity for borrowing by the Steel Corporation no longer existed. The case was this: A year ago the need for $50,000,000 fresh capital, for improvements in plant and for paying off old debts, seemed to be imperative, and the $200,000,000 conversion scheme was thrown in to round out the operation. Deferred for nearly a year by the various injunction suits, the need for outside capital was greatly diminished by the enormous earnings of the company, which were far in excess of expectations. In the nine months of 1902, immediately following the promulgation of the conversion plan, the company's net earnings increased no less than $21,159,000 over the same months of the preceding year, and, on December 31, the books showed $33,841,565 "undivided earnings" as a result of the whole year's operations. This made resort to the money market a somewhat different matter, especially as it was known by every one that the $200,000,000 stock conversion was not necessary.

That conversion was, indeed, defended on the plea that five per cent annual interest on such a sum in bonds would foot up $4,000,000 less

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than seven per cent dividends on it in the form of stock. But, in the first place, the same argument would apply to conversion of any company's share capital into bonds with foreclosure powers; and, in the second place, argument from the saving in annual expenses lost force in proportion to the gain in annual revenue. In addition to all this, the contract with the underwriting syndicate pledged the Steel Corporation to pay $10,000,000 cash to the syndicate for its underwriting services. Broadly considered, these were fairly conclusive arguments against resumption of the plan; but on March 3 it was announced that the plan would be resumed. It is possible that this very contract with the syndicate, which was a legal document, tied the hands of the management.

In summing up briefly the tangible results of the past financial quarter, it should be said: (1) That interior trade conditions have made extremely favorable showing, beyond even what the optimists had predicted at the close of 1902; (2) that demand for capital, to conduct this trade and equip the corporations handling it, was greater than the available surplus on the market; (3) that, although commodity prices rose in response to this urgent and genuine demand, investment prices declined because of it. In other words, the interest rate in the broader sense has risen; borrowers of capital, whether Stock Exchange speculators, mercantile firms, or corporations with blocks of shares for sale, have had to pay higher charges — whether by increase of one or two per cent on a terminable loan, or by decrease of ten or twenty points in the prices for which securities are offered. The quarter ends with another considerable draft on foreign capital, whereby our floating European obligations, which are believed to have been reduced some $200,000,000 up to the middle of the winter, have been again expanding rapidly. As to the figure which this indebtedness will cut on the later markets of 1903, it is growing more and more plain how much depends on next summer's harvests.

ALEXANDER D. NOYES.

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APPLIED SCIENCE.

ONE of the essential elements of the applied science of engineering is the successful management of the men who do the work devised by the engineer. That this is fully realized is apparent from the extent to which economic and industrial problems are discussed and handled by the modern engineer. Almost the first question which is asked concerning any improved machine or process is as to the amount of labor it will save, while discussions about methods of remunerating workmen are almost as common at meetings of engineers as are the more technical portions of the art. There is no doubt whatever that the engineer is becoming an economist, in the broad meaning of the term, and that the scope of his work is widening in a manner which is making him a far more important member of the community than formerly.

Take, for example, the question of determining the cost of manufactured articles in almost any department of work. Formerly this was left almost entirely in the hands of the commercial department of the establishment; and if costs came out too high, the works manager was given to understand that he must do something to squeeze down wages. In the well-conducted shop of to-day the cost accounting is in the hands of the works manager himself; and he well understands that there is another method of reducing cost than that of cutting down wages, namely, that of increasing output. Naturally, the increase of output per man means a reduction in cost of the finished article, but the engineer-economist knows that it means much more than that. In the manufacturing establishment of the old time, it was fairly well understood that the general cost of running the works, motive power, salaries, interest, taxes, insurance, etc., amounted to about as much as was paid out in wages to the men who were directly productive; and hence the method of obtaining the cost of an article was amazingly simple. All that was necessary was to add to the cost of the material the wages of the workmen employed upon it, and to this a further sum equal to the wages, this latter to provide for the so-called "general expense"; and the actual manufacturing cost was obtained.

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When the engineer took charge of this simple problem he at once perceived that the "general expense" was not increased by an increased output; and hence anything which would increase the total output of the works, even at the same wage cost, would result in a diminished total cost. He at once set about devising methods not for cutting down the workman's wages, but for giving him inducements to produce more by offering opportunities to make more money. The result is seen in the extending introduction of "bonus" and "premium" systems for remunerating labor — methods devised by engineers for engineering workmen to the great advancement of engineering industries.

Another notable example of the manner in which the engineer can control industrial and commercial achievements may here be noted. A great steel works found itself face to face with the problem, not uncommon in the United States at the present time, of providing greatly increased facilities to perform the work which was pouring in upon it. The forges, the foundries, and the rolling mills were ready to supply the rough material, but the machine shops were confessedly unequal to their share of the task. The commercial end of the management saw one solution only to the problem. More machine shops must be built, more tools must be bought, more men must be employed, and general extensions must be made. At this point the engineer and the chemist interposed. To them another solution of the question appeared possible. The engineer carefully computed the quantity of metal which must be cut within a given time, and calculated the increased speed which must be given to the tools to accomplish this result. The chemist studied the behavior of tool steels under various speeds and temperatures. The result was the production of a tool steel permitting cutting speeds three to ten times higher than those heretofore considered possible. Each piece of work is delivered to the man at the lathe or planer with definite instructions as to the time within which it must be completed, and a substantial bonus is paid him should he complete it in less time. The work is done, the bonuses are paid, and the great establishment is turning out from two to three times as much work as was previously considered possible, without any of the proposed extensions in buildings or equipment having been made. To-day the Taylor-White tool steel is known everywhere in engineering circles as one of the important elements in manufacturing economics, an example of the manner in which the engineer is entering the commercial side of modern industry.

The work of the engineer in the direction of reducing labor costs is most conspicuously apparent by inspection of some of the more recently

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equipped establishments, the fewness of the men compared with the magnitude of the output attracting especial attention. Nothing is done by human labor which can be possibly accomplished by mechanical agency, men being employed to work with their eyes and their heads rather than their hands; and the paradoxical result is that more men are employed in the aggregate, at better wages, and the product is enormously increased, while costs are lowered. There is to-day no more noteworthy triumph of applied science.

During the past few months there has been much discussion, some of it almost acrimonious, concerning the advisability of the adoption of the metric system of weights and measures into English-speaking countries. It is not the intention to take up the discussion here. Arguments by practical and scientific men upon both sides are not lacking. It seems, however, as if an exaggerated importance is being given to what must always be a means rather than an end. It has been maintained that a foreign trade in engineering products must involve for its success the adoption of the units of the countries with which the trade is sought. Such a trade, however, is not a matter of weights and measures, but of the inherent value of the machines and other products involved. The question is not as to the system of measurements in which a device has been made, but as to its real value and capabilities. As a matter of fact, the countries of the greatest industrial importance are not the metric-using countries, nor is there any present probability of the metric-using countries attaining engineering supremacy. The metric system has undoubted merit; but it is merely an incident in the course of engineering development, and in no way an element of controlling importance.

So far as convenience of computations is concerned, nearly every engineer of standing adopts methods altogether above the elementary arithmetic of the metric or any other numerical system; using formulas, diagrams, and tables which embody the experience and analysis of members of the profession in all lands. To make engineering supremacy dependent in any way upon a system of arithmetical notation is about as intelligent as it would be to measure the eminence of a musician by the piano upon which his compositions were performed or the ability of an author by the material of which his books were made. It is more than probable that computations for engineering and scientific work will be made almost altogether by mechanical devices in the impending future, and that skill in the art of the computer will be super-

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seded by the automatic machine almost as fully as has the caligraphy of the copying-clerk by the performance of the typewriter; the numerical system being largely relegated to the shopkeeper and petty tradesman.

One of the most significant facts in the domain of applied science during the past few months is the memorandum made public by the First Lord of the Admiralty concerning the changes in the training of officers for the British Navy. For a long time there had been a contention that the engineer branch of the service did not have the rank or authority due to its real importance; but every attempt to extend the scope of the engineers was consistently opposed by the executive branch, or as it is called in the United States Navy, the line. The agitation among civilian marine engineers, and by the technical press, however, created such a pressure of public opinion in the matter that the whole system of the training of officers for all branches of the naval service has been reorganized. Stripped of its detailed items, the scheme provides that all the students shall be trained in modern technical science for seven years, and then, having reached the rank of sub-lieutenant, they shall be distributed among the engineer, executive, and marine branches. The engineer officers are to have positive rank, and a corresponding degree of authority in their own departments. The scheme is not unlike the personnel law in the United States Navy, except that the latter act contained no provision for its enforcement; and the line officers have thus far succeeded in thwarting its clear provisions to make them engineers "whether they want to be or not." Possibly the example of the Royal Navy may cause the exercise of official authority to remedy the weak feature of the American law, and thus compel the line officers to perform the proper duties which they have thus far succeeded in evading.

Among recent undertakings in civil engineering may be noted the successful measurement of an arc of the earth's meridian on the island of Spitzbergen. The principal feature about this work is the high latitude in which the arc lies, being twelve degrees farther north than the previous most northerly arc, in Lapland. The object of the work, which was undertaken by a joint commission of Swedish and Russian engineers, under the auspices of their respective governments, was to increase our knowledge concerning the figure of the earth. The work recently completed adds to the store of data an accurate determination of an arc about four degrees in length, reaching nearly to latitude 81° N.;

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and taken in connection with the redetermination of the work of Bouguer and La Condamine in Peru, now being conducted by the French Government, it should enable the figure of the earth to be computed with a degree of precision hitherto unattainable. A feature of interest in the measurements made in Spitzbergen was the use of the new nickel-steel alloy for the material of the measuring wires, this alloy having such a low coefficient of expansion as to render temperature corrections unnecessary.

The various applications of electricity are so closely related to each other in many instances, that investigations in one line of work lead to developments in other directions. This has notably been the case in connection with the mercury-vapor electric lamp of Mr. Peter Cooper Hewitt. This lamp consists of a tube from which the air has been exhausted and which is provided with an electric terminal at each end. The negative electrode is at the lower end of the tube, which is formed in a bulb shape and contains mercury. When a direct electric current is passed through the tube the vapor of mercury becomes incandescent, and a blue-white light is emitted. Although the light is entirely lacking in red rays, this is an objection only because of the peculiar color deceptions which appear; but since it is the red rays which are injurious to the eye-sight, their absence is not altogether an evil. The great advantage of the light lies in its high efficiency, the consumption of electric energy being only about one-seventh of that required to produce an equivalent illumination in the ordinary incandescent lamp.

Thus far the work of Mr. Hewitt has appeared to be crowned with a fair measure of success in the direction of electric lighting. A few months ago, however, the extension of certain phenomena in connection with the passage of the current through the mercury vapor led to a valuable application of the apparatus to a totally different purpose. Although the lamp opposed but a moderate resistance to the passage of the electric current after it was once started, a high initial voltage was found necessary in starting, and special devices have been used to start the lamp. The moment the current is interrupted, the high resistance again appears, and must again be broken down to permit the further passage of the current.

All these phenomena occur with the continuous current. When, however, an alternating current is used, it appears that only the positive portions of the waves are passed, the negative portions being arrested altogether. This suggested the use of a modified form of the lamp as a

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transformer, or, more correctly, as a rectifier, for the purpose of converting alternating into continuous currents, an operation previously effected only by large and expensive rotary converters. By providing as many positive terminals as there are phases in the current to be transformed, together with an additional starting terminal, using a mercury vapor globe with a single negative terminal, it is possible to produce a succession of closely following pulsations in a single direction. These constitute practically a continuous current, the transformation having been effected with a piece of apparatus without any moving parts, and almost absurdly simple in construction, in consideration of the effect produced. The apparatus is of high efficiency, the loss of pressure being stated as fourteen volts under all circumstances, the efficiency being thus dependent upon the original voltage. Thus, with a pressure of 140 volts there is a loss of ten per cent, and with 1,400 volts a loss of but one per cent.

It might seem as if this were sufficient to be accomplished with this simple piece of apparatus, but a still more remarkable application of the mercury vapor lamp has been made public. We have already discussed in these pages the progress which has been made in telegraphing across wide intervals of space by the use of magnetic waves. Nearly all the improvements which have been made in such apparatus, however, have been in the receiving devices. The original coherer of Branly, composed of finely divided metallic particles, was superseded by the mercury drop of Castelli and Solari, enabling the sensitive telephone to be used as a receiver. This again has been displaced by the magnetic detector of Marconi, which has proved more sensitive and convenient, besides being available for use with a recording receiver. With all these devices, however, the apparatus for emitting the magnetic waves has remained unchanged; the waves being produced by electrical discharges at high tension across a spark gap. This method has its disadvantages, because the rate of discharge is limited, and not entirely controllable, and because the surfaces of the terminals, between which the sparks pass, usually polished metal spheres, are rapidly destroyed by the action of the current. Now, however, it has been discovered that the mercury vapor bulb, arranged with suitable condensers, forms a means of producing disruptive discharges of any desired frequency, thus forming a transmitter for wireless telegraphy of extreme efficiency and simplicity. The ability to control the rate of the current impulses renders it practicable to use the apparatus for selective telegraphy; the receiver being "tuned" to the rate of the transmitter, thus rendering the message indistinguishable to any receiver not so tuned.

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Referring generally to the subject of space telegraphy, the fact that complete messages have been transmitted across the Atlantic has been fully confirmed, and at the present time there is no doubt on the part of any one qualified to judge as to the practicability of maintaining wireless communication across the Atlantic. The question of the commercial feasibility of competition with existing cable communication remains to be determined, and, so far as Great Britain is concerned, the Post-Office monopoly of electric communication acts to retard the development of the system. However, there is every reason to believe that commercial wireless communication will be established across the Atlantic between nations favorably inclined to the system, such as Italy and Argentina, and doubtless other civilized governments will perceive the futility of endeavoring to oppose the advance of science.

There has been evinced, during the past few months, an increasing interest in the application of electric driving to the operation of general machinery. This is partly due to a realization of the low efficiency of shafting, belting, and similar devices for transmitting power, but more emphatically to a perception of the importance of flexibility in the arrangement of machinery. When shafting is employed, the position of the machinery is necessarily dictated to a great extent by the requirements of power transmission; but when each machine is equipped with its own independent motor, it can be placed where it can be most effectively employed. It is becoming more and more generally understood in works management, that it is the efficiency of the whole plant which is to be attained, rather than that of its parts, separately considered. It may be more advantageous to consume a little more power to drive a machine, if thereby it can be so placed as to enable a greater output to be secured, or the labor cost of attendance reduced. As a result there is little doubt that the machine shop of the immediate future will employ independent electric driving almost exclusively; each tool having its own motor, and all motors receiving their current from a central generating house in which the prime movers and dynamos are placed. Shafting, belting, and pulleys will be conspicuous by their absence; and, as a necessary sequence, the details of factory construction will be materially modified.

In connection with the introduction of independent electric driving the increasing interest in the steam turbine may be noted as an element which may become of importance. The idea of using as a motor a wheel blown around by a jet of steam is one of the oldest in connection

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with steam engineering, and from the first has had the attractiveness of simplicity. Until recently, however, it has seemed like a most wasteful method of obtaining power from heat. The modern steam turbine is, nevertheless, a highly efficient machine; and its efficiency is based largely upon the adoption of extremely high speeds, enabling the running member of the machine to attain the velocity at which the maximum proportion of energy can be transferred from the jets of steam to itself. From the very nature of the device it is evident that such a machine is not adapted for varying services to the extent possible with the present reciprocating steam engine. When, however, the steam turbine is united with a properly designed dynamo to form a compact and powerful generating set, the essentials of high total efficiency are undoubtedly present. In order to render such a combination of general use, it is only necessary to provide a general demand for electric current for the purposes ordinarily met by the power and transmission machinery in common use, and this is being accomplished by the application of independent electric motors to the various tools and machines in general use. There is thus a complete transformation in the generation, transmission, and application of power going on at the present time, a change which is certain to render obsolete very shortly much that has hitherto been deemed essential. The result is certain to add much to the efficiency of manufacturing operations and to increase the output without a proportional increase in cost.

The recent automobile exhibition in New York shows that the transition period is gradually passing, and that the various types of motor vehicles are crystallizing, so to speak, into forms which, while subject to modification, are fairly well standardized. The light runabout, popularized largely by the convenient steam vehicles, will fill a certain demand; but it hardly appears to have the elements of stability as a type, for until much better roads are built than those now generally available, a stronger and more sturdy construction is necessary.

The internal combustion motor, mounted in a substantial carriage of the French touring type, appears to be the form which has survived the many tests of experience; and there is every reason to believe that this will be the standard design, so far as general features are concerned, of the immediate future. Like all innovations, the automobile, as a useful addition to man's appliances for controlling the forces of nature to his use and convenience, is handicapped by the abuses which a limited number of reckless individuals have created. The construction of freak

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machines, bearing about as much relation to standard types as a cup defender does to a cruiser, absorbs an undue proportion of public attention; and the effort to lower speed records, while furnishing incentives for improvement in details of construction, creates prejudice against motor vehicles as a whole. This, however, is but one phase of the development of the subject, and will find its true place in due time, while the really serviceable vehicles will before long dominate the situation to the great benefit of the entire community.

Probably no department of building construction has progressed more rapidly than that including the various forms of what has been termed "reinforced concrete." Reference has already been made in these reviews to this form of construction, but its continued growth demands further notice. The fact that iron or steel embedded in cement concrete does not rust, but does adhere, and adds greatly to the strength of the structure, has been well established for several years. The method, however, has been too often empirically applied, and it is only with the lapse of time that it has acquired a position entitling it to scientific consideration. In order that such structures should be properly proportioned, it has become necessary to extend our knowledge of concrete as a structural material, and to determine not only the crushing resistance of various mixtures, but also their elasticity, since it is only by proportioning the two elements of steel and concrete so that their elastic limits are approached with some degree of proportionality, that the best results can be obtained. During the demolition of some of the structures of the Paris Exposition of 1900 occasion was taken to test the strength of floors and beams of reinforced concrete, and the data thus obtained have aided in confirming the theoretical deductions which have been made from laboratory tests on a smaller scale.

An interesting feature of modern science is the promptness with which laboratory methods of investigation find their way into the workshop as soon as their reliability and value can be demonstrated. Thus the testing machine and the chemical laboratory have been long since accepted as necessary accompaniments of every important steel works, and yet it has been fully realized that these methods of research did not tell all that should be known about either processes or products. Materials of the same chemical composition did not always give similar results in the testing machine, and when they did, the resistance to wear was often very variable. In the effort to investigate the causes of

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observed differences, the methods of metallography were devised, polished surfaces of test specimens being etched with acids and examined under the microscope. By such methods differences in structure were clearly revealed, and it became apparent that the grouping of the constituents played an important part in the structural value of the product. Further study has shown that the structure depends to a great extent upon the heat treatment, such as the temperature during rolling, forging, and other manipulations. Since it is possible at any time to polish, etch, and examine a piece from a rail, beam, or plate, it is practicable to compare the result with photographs of standard specimens, and determine beyond question the treatment to which it was subjected during the processes of manufacture. There is no doubt that the science of metallography, or the microscopic study of the structure of metals, will pass from a refined laboratory investigation into a daily practice of the iron and steel works of Europe and America, and thus add another to the means of increasing safety and endurance to structures of steel and iron.

There has been of late an increasing tendency to develop high speeds in railway travel, and attempts to make new speed records on the railroads of Europe and America are constantly noted. From the earliest experiments with electric traction it has been realized that the electric motor contained the essentials for maximum speed; since the reciprocating movements which introduce such difficulties with ordinary steam locomotives are entirely absent, and high rotative speeds are readily obtained without jar or vibration. At the same time, the high railway speeds have all been made with steam locomotives; and hence the experiments of the German Government to attain record-breaking speeds with electric locomotives on a special line of track, constructed especially for the purpose, have attracted much attention. These trials have been conducted on the military railway between Marienfelde and Zossen, a length of 23 kilometres; a supply of electric current being delivered from the station of Ober-Schönweide, about 12 kilometres from Marienfelde. Two experimental electric locomotives were built by different establishments, and numerous trials have been made with every facility for demonstrating the availability of electric power for very high speeds. The results, however, have not been as conclusive as might have been desired. It is true that speeds as high as 160 kilometres (99 miles) per hour have been attained; but when the speed exceeds 140 kilometres (87 miles) per hour, the vibrations become excessive, and it has not been

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considered safe to maintain continuous running at higher speeds than 130 kilometres. This is due not to any defects in the locomotives but to the lightness of the track; the rails weighing about 67 pounds only per yard. Before any more serious attempts at higher speeds are to be made a heavier roadbed must be provided.

In connection with these experiments in high-speed electric traction some interesting auxiliary investigations have been conducted. Thus, the laws of friction, as previously accepted, have been viewed with doubt as applicable to speeds so far exceeding those from which they were determined. Hence a new and exhaustive series of tests has been made, enabling the conditions of frictional resistance at various speeds, temperatures, and pressures to be ascertained far more definitely than had previously been possible. The resistance of the air at high speeds has also been investigated very fully and additional data of value have been obtained.

The steam locomotive engineers have made some effort to meet this display of activity on the part of the electrical fraternity, and the German Society of Mechanical Engineers arranged a competition for designs for improved steam locomotives to be operated at 90 miles per hour. This competition, which closed on January 1 of the present year, failed to develop any plan deemed worthy of the prize, but five of the plans received minor awards, and a further competition was arranged.

In the opinion of eminent railway engineers there is no practical difficulty in producing a locomotive, using either steam or electricity as motive power, which shall be able to maintain a speed of 90 to 100 miles per hour; but present roadbeds are altogether unequal to such service. It is to the permanent way, and not to the rolling stock and motive power, that the effort for improvement should be directed.

The completion of the British Pacific cable marks an epoch in the application of electricity to communication, and completes the girdle round the world which has been so long a theme of fancy, and has now become an accomplished fact. The all-British cable, extending 7,128 nautical miles from Vancouver to Brisbane, Australia, by way of Fanning Island, Fiji, and Norfolk Island, with an extension to New Zealand, has been successfully laid on the bed of the Pacific, and communication satisfactorily accomplished. Some idea of the magnitude of this achievement may be obtained from the fact that the deep section between Vancouver and Fanning Island contains 1,000 tons of copper, and that it rests more than three miles beneath the surface of the sea.

The construction of the American Pacific Cable is also being ener-

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getically pushed; and the first and most essential section, extending from San Francisco to Honolulu, a distance of 2,412 nautical miles, has already been completed. The succeeding sections, from Honolulu to Manila, 5,800 miles, by way of Guam and Midway Island, are to follow, and with a branch from Manila to Shanghai, will complete the second girdle of communication. It is altogether probable that the demand for communication will hereafter justify the construction of a cable over the shortest, or great circle, route by way of the Aleutian Islands and Japan, unless, indeed, this route, with its short sections, may be found too well adapted for the installation of wireless communication to need any cable laying.

Among the great engineering undertakings which have been completed during the recent months, the Nile dams undoubtedly hold first place, both because of the magnitude of the work and the far-reaching consequences of the control of the river. The great dam at Assouan, of which the foundation stone was laid in February, 1899, has been completed in four years. It is a mile and a quarter long, and nearly 100 feet thick at the base, and contains about one million tons of granite masonry. The auxiliary barrage at Assiout, by which the stored water is diverted to the irrigation canals, adds to the importance of the undertaking, and already this dam has been used to retain the water of the present low Nile and has practically saved the season's crops. The reservoir immediately behind the Assouan dam will hold more than 1,000 million tons of water; but this is only a portion of the storage reservoir which must be ultimately controlled by artificial engineering works. At the sources of the White Nile, the Albert and the Victoria Nyanza may be impounded, while at the head of the Blue Nile is Lake Tana, another available reservoir. Such works as these form most impressive monuments to the engineering control of continents, and represent in the highest degree the application of science to human existence.

The Nile dams form an example of the closing, or regulating, of a great waterway, while the Panama canal represents the reverse, the opening of a navigable channel. At the present writing, the only obstruction to active work upon this great undertaking is political, the treaty having been signed and waiting only for the ratification by the Senate of the United States. Doubtless the mere politicians will be pushed aside, and the engineers, the men who do things instead of obstructing progress, will be permitted to begin their useful operations.

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There is not the slightest doubt that the best route has been selected and that the most satisfactory international arrangements have been concluded. The development which has been made in methods and machinery of excavation since the plans of De Lesseps and his engineers were prepared will greatly simplify the task and shorten the time required for the completion of the work, and doubtless special machinery will be designed to meet the special requirements which may arise.

This question of excavating and deepening channels and waterways is becoming of more and more importance with the increase in dimensions of seagoing vessels. At the present time the depth limits of the greatest ports are barely sufficient to admit the recent vessels of both German and British lines. The necessity for deepening channels will be realized when it is seen that the 40-foot depth of channel proposed, but not yet reached, in New York, is almost attained in the draught of such vessels as the giant "Cedric," of the White Star Line, and the new "Kaiser Wilhelm II," of the North German Lloyd. Those ports which expect to maintain their commerce must increase their navigable channels, since it has been so fully demonstrated that the large cargo boats are commercially the most profitable that trade will surely go to the harbors which can receive them. At the present time the limitations in the size of steamships are not those of construction but of port facilities and harbor draught.

The question of speed for ocean steamships appears to be approaching a test. The government subsidy allotted to the Cunard line in connection with its declination to enter the Morgan syndicate involves the addition to its fleet of two steamers larger and swifter than any others afloat, and pursuant to this agreement plans have been made to start the construction of the vessels. The requirement that the ships shall maintain an average sea speed of 25 knots, however, appears to be a condition which the leading shipbuilding firms are loth to accept. It is not an impossible undertaking, but it involves responsibilities which offer small inducements to the constructors. Just how the responsibility will be ultimately met remains to be seen. The ships will undoubtedly be built, and, if required, can be powered heavily enough to make a speed of 25 knots for a time; but the maintenance of such a speed as an average for a year, as a condition of retention and payment, is something altogether different.

In connection with the maintenance of high speeds in steamships the question of the reduction of vibration has become a matter of importance. At one time the principal element in vibration was supposed to

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be the screw propeller, and when vessels are equipped with twin screws it is most important that they should be identical in pitch and dimensions. It is now realized, however, that the engines are the principal source of vibrations, and various plans have been evolved for counterbalancing, or otherwise minimizing, the objectionable effects. Some of the larger vessels now afloat are engined upon the principle suggested by Naval Constructor D. W. Taylor, U. S. N., but generally known as the Yarrow-Schlick-Tweedy system. This plan, used on the "Deutschland" among other vessels, involves the use of four cranks, with their cylinders, pistons, connecting rods, etc.; the cranks not being placed in four equal quadrants, and forming right angles, but being arranged at angles dependent upon the pressure and inertia forces acting upon them. It has been demonstrated mathematically that in this way the disturbing forces can be made to neutralize each other to a great extent, and the evils of vibration materially lessened. Another method, and one advocated by Rear-Admiral Melville, is that known as the Macalpine system, in which the two cylinders of a compound engine act upon opposite ends of a walking beam, the connecting rod extending from one end of the beam to the crank. In this way reciprocating motions are opposed by other reciprocating movements, and it is possible so to proportion the parts as to eliminate all tendency to vibration.

Undoubtedly the true method to remove vibration is to avoid all reciprocating action whatever by the use of the steam turbine as a source of motive power. The success which has been attained on the British Channel steamers with turbine propulsion has been such as to warrant its further extension.

At the present time there are no more interesting objects of laboratory investigation than the radio-active metals and their compounds isolated by Becquerel, the Curies, and their associates. The metal radium, especially, with its property of emitting rays of peculiar properties, is attracting much attention. A material from which stream not only rays of light, but also the so-called Becquerel rays, carrying electrical charges, producing physical and physiological effects of remarkable power, with no appreciable diminution in weight, must soon become something more than a curiosity, something which will be applied as extensively, perhaps, as the once mysterious force which set the frog's legs kicking on the laboratory table of Volta scarcely a hundred years ago.

HENRY HARRISON SUPLEE.

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LITERATURE: LEE'S LIFE OF QUEEN VICTORIA.[1]

THE sympathy, not to say affection, felt by most Americans for Queen Victoria during the latter years of her reign will make the present elaborate biography of the great Queen a particularly interesting book to many readers in this country. Their interest will doubtless be enhanced by the fact that its author, Mr. Sidney Lee, has recently been lecturing at our chief universities. The editor of the "Dictionary of National Biography" needs no introduction, however; and a book, which in its inception and execution closely parallels in some important respects his well-known "Life of William Shakespeare," would have been sure of readers even if it had dealt with a less attractive subject.

If to some persons it should seem strange that a scholar rather than a more specifically public man should have undertaken the biography of a queen so predominantly influential in the political sphere, such doubters may be pointed to the facts that Mr. Lee, in his edition and continuation of the fascinating autobiography of Lord Herbert of Cherbury, and elsewhere, has shown his entire competence to deal with political matters, and that as editor of the great Dictionary he has had an excellent training for almost every form of biographical and, indeed, of historical composition. Besides, it may be seriously doubted whether the untrained writer with wide practical experience in a particular sphere often surpasses the trained writer with little practical experience, provided the latter possesses, in addition to his training and scholarship, a good stock of common sense. Hence it need surprise no one to find that the author of the admirably thorough article on the little-read poet, John Lydgate, in the "Dictionary of National Biography" is the same person as the writer of the exhaustive article on Queen Victoria in the third supplementary volume of that truly monumental work.

This biography, as Mr. Lee informs us in his preface, is based upon the last-named article. The latter was undertaken at the wish of the patron of the Dictionary, the late George Smith. Mr. Lee went at his

[1] *Queen Victoria, a Biography.* By Sidney Lee, editor of "The Dictionary of National Biography." With portraits, facsimile, and map. New York, the Macmillan Company, 1903.

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task with misgivings, but his article was most favorably received, and a desire was expressed for its publication in book form. Compliance with this desire was rendered easier by the fact that in the article the biographer could not make use of much of the illustrative material he had gathered. We now have this and recently acquired material incorporated in a stout volume; the wide range of Mr. Lee's researches being fairly indicated by his bibliographical appendix, supplemented by passages in his preface.

Not the least valuable feature of the biography is the analytical table of contents, which follows the serviceable plan adopted in the "Life of William Shakespeare" and gives a synopsis of the forty-nine chapters and the four appendices. These appendices describe, or, rather, enumerate, the Queen's descendants, her portraits, the published sources of information on which the biography is based, and the stages of the growth of the British Empire between 1837, the date of the Queen's accession, and 1901, the date of her death. A usefully full index concludes the work. To the credit of the author and his publishers it should be said that they have avoided the current fashion of over-illustrating, and have confined themselves to portraits of Queen Victoria at the age of twenty and of seventy-eight, to a facsimile of her letter inviting Disraeli to form his ministry of 1874, to representations of the Jubilee Medal of 1897, and to a map of the Empire in 1901.

The first three chapters deal with Victoria's life before she succeeded to the crown, and, although strictly speaking only a prologue, are as interesting as any in the volume. A few paragraphs about her remote ancestry bring us to the curious situation of the family of her grandfather, George III, in the year 1817. That domestic monarch had been blessed with fifteen children, only two of whom had died in infancy. Of the survivors only one had died under thirty; yet on the death in 1817 of the Princess Charlotte of Saxe-Coburg, only child of the Prince Regent and the subject of Southey's noble funeral ode, it appeared that the Crown had not a single legitimate representative in the third generation. Of George's seven adult sons three, Mr. Lee informs us, were bachelors, and the remainder were either childless or without lawful issue; of the King's five surviving daughters, three were married but without living issue, and two were unmarried. It was an extraordinary case of race suicide at the very top; and it was imperatively necessary to take preventive steps of more potency than writing letters or preaching sermons of warning. It was necessary to provide brides forthwith for the three middle-aged unmarried sons.

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The latter stepped forward bravely to their fates, and by the eleventh of the following June all three had been married to German ladies of suitable ranks. Edward Augustus, Duke of Kent, aged fifty, took for his bride the widowed sister of Prince Leopold of Saxe-Coburg, Mary Louisa Victoria, Dowager Princess of Leiningen, aged thirty-two. The Duke had had a bad education in Hanover, had failed as a military commander, and had contracted debts that forced him to live outside of England. His wife was a homely, domestic person, chiefly interested in the affairs of her numerous relatives among the smaller German rulers. The newly-married pair went to England, were remarried there, and were then forced by pecuniary difficulties and family slights to return to Germany. The impending birth of a child who might be the heir to the throne drove them back to English soil, and at Kensington, on May 24, 1819, a daughter was born to them who was destined to pay her father's debts and inherit his devotion to the British army, as well as to cherish in full measure her mother's absorption in the Saxe-Coburg family in all its ramifications. It is needless to say that this daughter was the future Queen Victoria.

At the age of one month the Princess was baptized with appropriate ceremonies, one of her sponsors being the Czar Alexander I, after whom she was named Alexandrina. The Prince Regent, soon to be known as George IV, wished this to be the only name; but the Duke of Kent requested that a second be added, and some argument ensued between the acting head of the kingdom and the head of the little family. Curiously enough, the father urged the name Elizabeth, and, had he prevailed, Queen Victoria, who detested her virgin predecessor, would probably have been known as Queen Elizabeth the Second. But the Regent insisted on the name Victoria, the third name of the infant's mother. Thus with some difficulty the Princess Alexandrina Victoria began her career as a definitely designated individual. She was for some years known familiarly as 'Drina, and it was at first hard for her future subjects to reconcile themselves to the then foreign appellation, Victoria, in spite of its auspiciousness.

The vaccination of the Princess was perhaps more important than her christening, for it helped to make popular an operation lying under the ban of suspicion. Of more romantic and dramatic interest is the fact that during the summer of 1819 Victoria's uncle, the Duke of Saxe-Coburg-Saalfeld (afterward Gotha), was presented by his Duchess, who had been waited upon by the same German *accoucheuse* that had attended the Duchess of Kent, with a second son, Albert, destined to be no less

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a personage than the Prince Consort. But, after all, death lends Mr. Lee's early pages more dramatic interest than life does. Before the Princess was a year old her father and her grandfather George III were dead; her uncle, the Prince Regent, had become George IV; and only two other uncles, the Dukes of York and of Clarence, neither of whom seemed likely to have lawful heirs, stood between the little child and the crown.

It would not be fair to our biographer and his readers to continue following his narrative so closely. It must suffice to remark that he brings before us very clearly the pecuniary and family embarrassments that hampered the Duchess of Kent in rearing her daughter, that he gives an attractive description of the childhood of the Princess, and that, without departing from the tone of a scholarly memoir, he manages to maintain with ease the interest of his opening chapter. One of the most important influences in the life of the future Queen undoubtedly proceeded from her mother's brother, Prince Leopold, later King of the Belgians, whose devotion to his niece's welfare was unselfish and intelligent. Her governess, Fräulein, afterward Baroness, Lehzen, also counted for not a little in her development, and all her teachers seem to have been conscientious. They appear to have kept their little pupil simple and unaffected, and to have trained her well in music, dancing, games and exercises, and in the modern languages. They would not let her read novels, and unfortunately they could not develop in her much of a liking for other forms of literature. As Mr. Lee frankly tells us, "first-rate literature never greatly appealed to her." She did read novels later, enjoying most those of Mr. Marion Crawford; but "on the whole, she regarded novel-reading as a dangerous distraction from the solemn interests of life." Her own literary efforts, such as "Leaves from a Journal of our Life in the Highlands," furnish her biographer with no occasion for rhapsody, but he remarks that she could criticise with shrewdness such a novel as "Middlemarch." He might have added that, along with a very different sort of woman, Harriet Martineau, she thought Mrs. Stowe's "Dred" an improvement on "Uncle Tom's Cabin."

In 1830 the Princess, who the year before had attended her first Court function in company with the interesting little Queen of Portugal, became heir presumptive, the Duke of York and George IV having died, and the Duke of Clarence having ascended the throne as William IV, without living legitimate children. Parliament was now forced to take more cognizance of her existence; and the situation of herself and her mother was ameliorated. Unfortunately, however, to apply Mr. Lee's

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own words, the throne which had lately been filled by an imbecile and by a profligate was now filled by a King who was thought to be little better than a buffoon. Certainly the conduct of William IV toward the Duchess of Kent, his own sister-in-law and the mother of his probable successor, is in part explicable if we view the monarch in this unfavorable light; but it would seem that the man who at a state banquet so far forgot himself as to denounce and upbraid the mother in the presence of her daughter and of many of that daughter's future courtiers was more of a boor than of a buffoon. This is not to say, of course, that the Duchess of Kent had not laid herself open to criticism in ways that need not be discussed here; but only to point the morals that Mr. Lee's volume is continually pointing — to wit, that the lot of those in high places is frequently far from enviable, and that Queen Victoria's long reign wrought beneficent changes not merely in the morals but also in the manners of the English Court. Perhaps, in view of the praise that has already been given, it may not be ungracious to remark that in his chapter dealing with the Princess as heir-presumptive, the biographer is a little too minute in his description of the visits paid by Victoria and her mother to the houses of various noblemen. Some of these "social events" — and the same is true of other chapters — might well have been relegated to footnotes, not, however, to the exclusion of the note that gives an extract from Robert Lowe's amusing macaronic poem written on the occasion of the visit to Oxford. "Royal progresses" was the name derisively given by William IV to these excursions, which were shrewdly designed to familiarize the young heiress with the country and the people she was to govern; but we sympathize rather with the child who was obliged to sit through long late dinners than with the constitutional monarch who was powerless to stop proceedings that were thoroughly distasteful to him.

William IV died early in the morning of June 20, 1837. Dr. William Howley, the Archbishop of Canterbury, who two years before at her confirmation had fairly frightened the young Princess by his discourse on her future responsibilities, at once set out with the Lord Chamberlain to inform the new sovereign that those responsibilities now confronted her. She received the intelligence with great dignity, and maintained her composure when a few hours later she met the Privy Council. Her lack of beauty and her diminutive stature seem to have passed unnoticed, so exquisitely modulated was the voice with which she read the speech already prepared for the occasion. The favorable impression thus created was on the whole supported during the various

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public ceremonies that followed, and the chivalrous loyalty of her subjects was at once secured to the girl Queen.

Although she showed in various small ways, especially in her management of the details of Court life, that she enjoyed the authority so early thrust upon her, the new ruler found herself quite as much of a pupil as she had ever been. Her tutor in the art of constitutional government was the Whig Prime Minister, Lord Melbourne, who had already been two years in power. This able, but rather cynical, statesman stands out most pleasantly from Mr. Lee's pages. To avoid complications he assumed the duties of the Queen's private secretary, and so became an inmate of her Court; instructing her in the morning, and riding and dining with her later in the day. As she had inherited liberal political sentiments from her father, it was comparatively easy for her, in spite of her tendency to self-assertiveness, to become greatly attached to her Whig mentor. She was also attached to Baron Stockmar, whom King Leopold had sent over to superintend her political education; but that English jealousy of foreign interference in the sphere of politics which was to embitter the life of the Prince Consort at once made itself felt, and Stockmar was on the whole muzzled.

The Queen strove to regard herself as a strictly limited monarch, but her relations with petty German rulers made the task a hard one, in spite of the fact that by the operation of the Salic Law the sovereignty of Hanover had passed from her to her uncle, Ernest, Duke of Cumberland. Perhaps if she had been of a less affectionate nature, she would have lent less heed to the counsels and desires of her relatives, and become resignedly passive to the advice of her ministers; but while such a consummation might more than once have benefited England and the world, one finds it hard to wish that she had been a whit less considerate of the ties of blood. A letter to her uncle, the Duke of Sussex, and the greeting she gave him when he waited on her with his fellow-members of the Royal Society make one of Mr. Lee's footnotes equal in human interest to any page of his text, and explain in part the hold that Queen Victoria acquired upon her subjects and upon millions of men and women throughout the world. The woman underneath the queen was visible from first to last.

The first year of Victoria's rule was marked by a general election, which returned Melbourne and the Whigs to power, in spite of the capital made by the Tories of the Queen's subjection to their rivals. Mr. Lee notes that in the new House of Commons Benjamin Disraeli, destined to be Queen Victoria's favorite minister, first secured a seat, and

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that his future rival, Gladstone, was returned for the third time for Newark. Both were Tories, but Gladstone's subsequent change of front scarcely warrants Mr. Lee's use of the phrase, "the apparent strength of his convictions." The biographer is much more happily inspired in his brief discussion of Lord Durham's Report, which at the very outset of the Queen's reign "proved that the grant of self-government to British colonies was the sole safeguard of a permanent colonial empire, and that allegiance to the throne voluntarily resting on the natural patriotic sentiment of the colonists, and on no prescribed or compulsory obligations, was the strongest, if not the only practicable, link wherewith to bind the distant dependencies of a monarchy to the mother country."

The irony of history is nowhere better illustrated than in the consequences of that Canadian Revolution which seemed an inauspicious beginning for a young Queen's reign and embarrassed a much more experienced politician — to wit, Martin Van Buren. The abortive uprising clinched, as it were, the lesson taught two generations before by the American Revolution, and laid, through Durham's Report, the broad basis on which the modern British Empire was to be reared. The rearing of that empire was undoubtedly the most conspicuous feature of the Queen's long reign; and although, as Mr. Lee points out, she can scarcely be said to have been specially influential in its upbuilding, the intense loyalty to her person that animated her widely-distributed subjects, particularly during the latter years of her reign, will always make her name a memorable one in the annals of Greater Britain. It matters little whether on a nearer view we are forced to smile at the innocent vanity that made her a willing victim to Disraeli's blandishments, when he secured for her the title of Empress of India. Perhaps it will matter just as little that at the time of her death another subtle politician, in whom she too blindly confided, plunged her Empire into a war deemed unrighteous by a large portion of Christendom and rife with consequences that cannot yet be estimated. The reign of Queen Victoria will always be invested with an imperial dignity of a far higher type than that with which Disraeli's imagination busied itself — the dignity of almost unlimited benevolence and of responsive loyalty so adequately celebrated in the stately verses of Tennyson, so grievously travestied in the shrill outbursts of some of his successors.

The Queen's coronation took place a little more than a year after her accession to the throne, and was a gorgeous affair, although somewhat marred by lack of rehearsal. Mr. Lee chronicles many interesting events of the day; but most readers will forget them and will remember

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only the fact that, as soon as she could, Queen Victoria "doffed her splendors in order to give her pet spaniel, Dash, its afternoon bath." That such an innocent girl should a few months later have been led by injudicious advice to err so grievously in connection with the case of the unfortunate Lady Flora Hastings moves our indignation. Fortunately, the scandal soon subsided and is now practically forgotten; but, combined with the Queen's unwillingness to entertain Peel's suggestion that changes should be made in "the female constitution of her household" — she was surrounded by Whig ladies — it made the year 1839 a critical one for the new reign. It is now more or less amusing to read of Tory attacks upon a sovereign who was later to be the mainstay of the party, and to note that the headstrong action of a mere girl prevented Peel from forming a ministry and gave Melbourne a new lease of power. *But sixty-four years ago these things seemed serious enough* — a Whig member of Parliament actually fought a duel with a Tory member who had reflected on the Queen's Whig proclivities — and trivial and personal matters will continue to be determining elements in politics, at least until the advent of the millennium.

It would be going too far, perhaps, to say that our biographer's eighth chapter, which is entitled "Marriage," is as romantic as though it were the last one of an old-fashioned novel; but it is not too much to say that it easily holds the reader's attention. It is needless to add that it deals with a love as true as was ever depicted in a story or experienced in a cottage. The Queen was at first disinclined to think of matrimony; but her uncle, King Leopold, had picked out Prince Albert of Saxe-Coburg-Gotha for her future husband when the two were babies, and he was determined to have his way. There were other suitors, but they had no such backers as King Leopold and Baron Stockmar. The wily diplomats sent the Prince and his elder brother to Windsor in October, 1839, and five days after the arrival of the young men the Queen offered herself to the right one. Both Prince and Queen had succumbed to a case of genuine love almost at first sight, and Victoria had concluded that Albert "would never have presumed to take such a liberty" as to offer himself to the Queen of England. The news of the match was received by her subjects with mixed feelings; but Daniel O'Connell at least was enthusiastic enough to drown many murmurs. Ten days before her engagement, if we may trust Mr. Lee's dates, the Irish orator, in a speech at Bandon, wished, amid immense cheering and laughter, that she might have as many children as his grandmother had — two and twenty. Future Parliaments were to groan at the necessity of pro-

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viding for the Queen's nine children and for some of her numerous grandchildren. Loyal Britons should shudder to think what capital the Radicals might have made had O'Connell's wish come true. Ireland might long since have had Home Rule and Great Britain a republican government.

The Queen, however, did not need the five hundred thousand Irish bayonets O'Connell offered her, for her own deep affection enabled her to withstand the criticism and opposition caused by her engagement. She wished to have the Prince made a King-Consort; but this was impossible, and many slights were put upon her and her betrothed, both in the Commons and in the House of Lords, in the matters of pecuniary allowance and of precedence. Finally the Queen by her own act gave the husband she married on February 10, 1840, the place next to herself on all public occasions; but she was destined to feel chagrined more than once when Continental sticklers for ceremony insisted on treating him as a mere German princeling.

It is scarcely necessary to discuss in any detail Mr. Lee's impartial chapter descriptive of Prince Albert's equivocal position. The world has long since acknowledged that he was entirely worthy of his wife's devotion, even if it feels that it would have been well if his widow's loyalty to his memory had been content to express itself in fewer memorial tributes. There is no more need to idealize him into a modern King Arthur than there was for Tennyson to convert King Arthur into a mediæval Prince Consort. The Prince was everything he should have been, except attractive and pliable. He seems to have been as unmagnetic as John Quincy Adams. He could not reconcile himself to playing the part of a figure-head in his wife's kingdom. His political ambitions, while scarcely blameworthy, were not pursued with tact; and although he ultimately became in reality joint ruler with the Queen, it is questionable whether this important station was worth the heartaches and chagrin both were forced to pay for it. The efforts of the Queen to push him forward were both inspiring and pathetic, but sometimes verged upon the ridiculous, as when poor old Wordsworth, as the story goes, was commanded to write an ode on the installation of the Prince as Chancellor of the University of Oxford, and was forced to get his son-in-law, Edward Quillinan, to write it for him.

The chief thorn in the sides of the royal pair was Lord Palmerston. Attempts were made on the Queen's life, children were born to her in quick succession, ministers were changed, royal journeys were made on new railroads or across the Channel, foreign sovereigns visited the English court, revolutions on the Continent swept relatives and friends from

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their thrones; but nothing, it would seem, made the Queen and her husband long forget that the brusque, self-opinionated, popular statesman, whether in office or out, could at any moment either thwart their most cherished schemes or make carrying them out so disagreeable as to deprive their triumphs of much of the anticipated resulting pleasure. Palmerston had been the pupil of Canning, had been long in office, and had taken foreign affairs under his charge. But it was precisely the foreign policy of England in which the Queen and Prince Albert were most interested; and their German connections and proclivities made it impossible for them to sympathize with Palmerston's desire to impose English constitutional principles on European States. The royal marriage had scarcely taken place before the Secretary for Foreign Affairs taught his mistress and her husband how powerless a minister can render a constitutional monarch. The Queen was vehemently opposed to the crushing of the rebel Egyptian Viceroy, Mehemet Ali, by English arms, because it seemed plain that such a step would bring on a war with France, to whose sovereign, Louis Philippe, she was bound by many ties. Palmerston persisted in his course, and war with France was averted only by Louis Philippe's unwillingness to fight.

Palmerston's conduct did not, however, alienate the Queen from the Whigs. She was sincerely grieved when the general election of 1841 brought the Tories into power; but she soon established cordial relations with the new Prime Minister, Peel, and with the Duke of Wellington. Peel was not disposed to resent Prince Albert's political ambitions; hence the Queen's feelings as a wife were soothed, while the births of the Princess Royal and of the Prince of Wales gave her the joys of motherhood. Shortly afterward she paid her first visit to Scotland, and formed an attachment for that portion of her kingdom that was destined to be a source of constant pleasure to her. Chartist agitations in England and growing disaffection in Ireland doubtless made her loyal, homely Scottish subjects all the more attractive; but her evident partiality for them, which extended even into the ecclesiastical sphere, was not altogether politic.

Late in 1845 bad harvests and a failure of the potato crop led Peel to advocate repeal of the Corn laws and precipitated strife among the Tories, Disraeli in especial rebelling against his leadership with a vehemence which the Queen reprobated at the time but later sought to excuse. Peel resigned and Lord John Russell was summoned to form a ministry, which meant a return of Palmerston to power. For a time the Queen was spared this humiliation, since Lord John, failing to se-

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cure Peel's promise of support in repealing the corn laws and also to conquer dissensions in his own party, was obliged to abandon the task to which he had been called. Peel returned to power, and the Queen, to use Mr. Lee's frank words, "identified herself almost recklessly" with his policy of repeal. When Melbourne told her that Peel's conduct was "damned dishonest," she bade her former mentor keep silence, being probably more irritated by the essential epithet than by the profane intensive accompanying it. But repeal was followed by Peel's fall, and in July, 1846, Lord John formed his first ministry with Palmerston in the Foreign Office.

Space is wanting to describe the awkward situation in which Palmerston rather inadvertently placed the Queen and Prince Albert with regard to the Spanish marriages of 1846, which form the main topic of one of Mr. Lee's chapters. The imbroglio is now practically forgotten, but it nearly caused a rupture between England and France, and brought down much contumely upon the Saxe-Coburg family — a result naturally galling to the Queen and her husband. Two years later they were much more disturbed by the revolutions that shook the Continent, especially by that which drove from his throne their friend and former host, Louis Philippe. Their reception of the exiled monarch and his family could not have been kinder; and, when the slight murmurs of revolutionary propaganda in England had subsided, they could feel that, after all, the position of a constitutional ruler has its compensations for the embarrassments that may result from the conduct of a self-willed minister.

These embarrassments, so far as Palmerston was concerned, were destined to grow more acute. He sympathized with the efforts of the Italians to throw off the yoke of Austria. The Prince and the Queen deprecated Austrian cruelty, but did not wish to see their friend, the Emperor of Austria, shorn of any of his power, or indeed to see Italian rulers rudely disturbed. In this they were undoubtedly reactionary; but in their support of Prussia's aspirations in Germany they were more clear-sighted than their Foreign Minister. There can be little question, too, that Palmerston went much too far in acting without giving his sovereign due notice; and one can but feel for the poor Queen when one finds the minister forcing her to copy out for her royal correspondents letters with the tenor of which she did not agree. Remonstrance was attempted, the Prince Consort actually having an interview with Palmerston in order to explain the Queen's grounds of complaint; but the statesman, while polite and full of promises, did not really mend his ways.

Fortunately relief soon came. The Crystal Palace had scarcely

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closed its exhibition when the *coup d'état* took place, and Palmerston committed England to the cause of the usurping Napoleon. Lord John demanded his resignation, and the Queen and the Prince rejoiced openly. But Palmerston had the ear of the country and was as dangerous out of office as in it. In just two months and a day he carried an amendment against his former colleagues and drove them from power. Then followed Lord Derby's brief administration and the coalition ministry of Lord Aberdeen, the latter period being marked by the Queen's yielding to the subtle flatteries of Napoleon III. Early in 1855 she was forced to accept Palmerston as Prime Minister — a step which would have been disagreeable at any time, but was rendered specially distasteful because it took place in the midst of the anxieties caused by the Crimean War. Against this unhappy contest she and the Prince had struggled bravely, incurring much obloquy; but Palmerston's views, which Mr. Lee pronounces "clearer and more popular," had prevailed, and the whirligig of time brought about the curious spectacle of the peace-loving Queen urging on her soldiers to defeat the armies of a brother and a Christian monarch, and relying on the advice of Palmerston and the material support of Napoleon III.

The year 1857 was marked by the Indian Mutiny. Early the next year Palmerston was forced to resign, owing to opposition to a bill occasioned by Orsini's attempted assassination of Napoleon. As with practically all her prime ministers, except Gladstone, the Queen for the moment was loath to part with the minister in power, even when that minister was Palmerston; but there was no help for it, and Lord Derby formed his second cabinet. The chief act of the new administration was to reorganize India by transferring the powers of the East India Company to the Crown; and the Queen showed her tact and her developed statesmanship by altering Lord Derby's proclamation in such a way as to remove its brusqueness and to make her new subjects feel that their religions and customs would be respected. If she had been able about forty years later to draft a certain proclamation for an American President, perhaps much loss of blood, property, and happiness might have been averted.

Napoleon's alliance with Victor Emmanuel and the war with Austria next furnished cause of anxiety to the Queen and Prince Albert, especially as they feared that Prussia, now connected with them through the marriage of Prince Frederick and the Princess Royal, might be drawn into hostilities. In the midst of this excitement Lord Derby's government was defeated, and, after some efforts to secure another prime minis-

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ter, the Queen was forced to call on Palmerston. The war ended without involving Prussia, but not without involving the Queen in disputes with her ministers. Then, shortly after, came the Civil War in this country, with Palmerston, Gladstone, and many other prominent Englishmen favoring the South, and the royal pair inclining to the North. In November, 1861, just at the time that Prince Albert's health seemed to be obviously failing, occurred the unfortunate boarding of the "Trent" and the seizure of Mason and Slidell. England was aroused, and Palmerston drafted a despatch to Washington most peremptory in its terms. The Prince Consort roused himself to write his last note, and urged recasting the dispatch in a moderate tone. Palmerston complied, and Lincoln and his advisers were able to make honorable reparation. As Walt Whitman, whom Mr. Lee quotes at length, afterward exclaimed: "This moment of a woman and a queen [he gave the Prince credit also] surely swung the grandest oscillation of modern history's pendulum."

The Prince Consort did not live to realize the good he had wrought. He died unexpectedly on December 14, 1861, in the presence of his wife, whose existence was almost cut actually in twain by the event. Both were forty-two years old; she survived him over thirty-nine years, and never during that long period ceased to mourn for him, even to the point of irritating her subjects by her prolonged seclusion. It is the Queen Victoria of this later period that is, of course, best known to the public of to-day, and probably it is the Queen of this period that most fully deserves to be regarded as a constitutional ruler of more than average intelligence and personal influence. How she conducted herself — sometimes with curious indifference to human rights, as in her support of the Russian oppressors of Poland in 1863, sometimes with clear comprehension of the best interests of the world, as when in 1875 she interfered to secure France from being attacked by Germany — may be read in Mr. Lee's later chapters. It has seemed best in this article to deal with the earlier and less familiar period of her long life, and to endeavor to show how interestingly her biographer has presented it. If a reader can be secured for the first chapters, he will not be likely to leave the book unfinished; and although he may at times tend to grow indignant at the Queen's lack of impartiality between the Conservatives and the Liberals, and especially at her antipathy to Gladstone, he will probably not be disposed to cavil at the calm conclusions with regard to her character and reign presented by Mr. Lee in his last chapter. She was surely a most laborious and conscientious sovereign, and her activity was on the whole advantageous. Her influence increased, although, as Mr. Lee

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shows, her prerogatives as monarch were diminished by the loss of her personal authority over the army, by ministerial distribution of titles and honors, and in other ways. She loved peace and was profoundly moved by any form of suffering. Her tastes were simple and healthy; her sentimentality and idiosyncrasies did little or no harm. It mattered scarcely at all that she did not sympathize with bishops, that she abhorred strong-minded women, that she preferred mediocre writers to good ones, that she did not give her dressmakers much cause for complacency and pride. She was a good and true, although not a great, woman, a model wife and mother, and, partly through the force of circumstances, an eminent queen.

It is needless to conclude by praising Mr. Lee's book once more, but it is pleasant to do so, and almost obligatory, in view of the free use that has here been made of his pages. He has discharged his difficult task with a blended frankness and discretion both rare and admirable. His style is as far removed from rhetorical extravagance as from unsuitable homeliness, and in but few instances lapses into awkwardness. Amid a multitude of dates and other details, only an occasional trifling error can be detected by the eye of the general reader. The Atlantic cable was not made a success in 1861; and in view of the number of trained veterans on whom the United States could have relied, Napoleon scarcely acted "pusillanimously" when he offered no resistance to the demand that his troops should withdraw from Mexico. Probably there are other statements that require correction or lend themselves to contradiction; but the reader who is once fairly started upon this excellent book will doubtless be too wise to waste much of his time in trying to discover them.

W. P. TRENT.

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MUSIC: LESSONS OF THE OPERATIC SEASON.

Opera in New York.

The late P. T. Barnum was the first to introduce the famous three rings in circus performances; Mr. Maurice Grau, the late manager of the Metropolitan Opera, may be said to have enlarged the domain of operatic performances upon an equally magnificent scale. Where is the New Yorker who would be content to-day with a company confining itself exclusively to Italian, French, or German opera? Truly, we have become fastidious and exacting. The galaxy of singers which Mr. Grau succeeded in bringing to this country, the constant succession of operatic performances in German, French, and Italian which he introduced — where can they be duplicated? As an illustration, I would here recall the memorable "Gala Performance" given last year in honor of Prince Henry of Prussia, when one act from "Tannhäuser" was given in German, one act from "Aïda" in Italian, and two acts, one each from Bizet's "Carmen" and Massenet's "Le Cid," in French. The cast included twenty-six singers, of whom three only — Reiss, Alvarez, and Mühlmann — appeared twice; among the distinguished artists in the cast being MM. Van Dyck, Dippel, Van Rooy, Scotti, Bispham, and Alvarez, Mmes. Emma Eames, Calvé, Schumann-Heink, Gadski, and Mlle. Milka Ternina. Germany, Austria, Belgium, Holland, Poland, Italy, France, the United States, and one or two other countries were represented in the cast.

But has the standard of operatic performance kept pace with this extension? It would be contradictory to the law of compensation to expect this; and a general survey of the field confirms the view that musically, as politically and socially, we are in a stage of transition. The old and effete is being weeded out; the new has not yet become firmly rooted. To be more specific, art, in the national sense, is slowly but surely becoming extinct. Here and there, efforts are being made artificially to revive and to stimulate it; and in certain parts of the world, as in Russia and Bohemia, pronounced national characteristics are still de-

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veloped, although a new form of art has not been and cannot be evolved. On the other hand, the work of Richard Wagner, which is by no means strictly national, but universal, in its signification, is as yet but imperfectly understood. A vivid illustration of this truth is furnished by the exponents of the so-called "Veristic School," who do not evince the faintest conception of the basic principles upon which the artistic fabric of Wagner has been reared. Puccini, whose operas, "La Tosca" and "La Bohème," were so frequently performed at the beginning of the present season, has, it is true, endeavored in his orchestral accompaniment to follow the action closely and consistently. He is a master of orchestral coloring, and here and there he has succeeded in producing a powerful and convincing effect. But his selection of subjects, particularly as regards "La Tosca," is so unfortunate, and the recurrence of themes eloquently reminiscent of "Frau Venus" and her happy train is so frequent, that the favorable impression produced by certain features of his work is soon dispelled.

The same statement applies in a still higher degree to artistic interpretation. The opera of Italy and France was distinctively national. It may, indeed, be said at one time to have been almost as much of a national institution as the Church or the State. It was in closest touch with the people, and its bearing upon current events was regarded as most important. Thus there arose whole dynasties of singers, who perpetuated the traditions of artistic interpretation, which they imbibed, one might almost say, in their infancy. Their speech, deportment, ideas, and associations were from earliest childhood intimately related to their artistic life. In covering more ground, as our singers do to-day, localization and concentration have been lost; and, in truth, the conditions which fostered them no longer exist. Consequently, the intensity and vividness of interpretation, which made an Italian opera frequently give the impression that the actual story of the plot was then and there for the first time enacted, are gradually becoming extinct. Yet, upon the whole, the results here, particularly as regards the later operas of Verdi, which deservedly maintain a strong hold upon the public favor, were fairly satisfactory. Despite the incongruity of its plot and the rather odd aggregation of costumes brought upon the stage at the Metropolitan performance, even "Un Ballo in Maschera," revived after many years, was presented in a spirited and convincing fashion.

Turning to the domain of French opera, we find Meyerbeer as the chief representative of that *genre*. The performances of "Le Prophète" and "Les Huguenots" at the Metropolitan were distinguished by many

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excellent features, the staging and costuming being good, and the distribution of the various rôles most fortunate. Yet here, also, vividness and intensity were lacking: the dramatic action, with some noteworthy exceptions, was unconvincing. Meyerbeer, the habitual punching-bag of embryo critics, is not to blame for this. The fault lies with his interpreters; and, inasmuch as the personnel of our Metropolitan troupe may, as a whole, be accepted as representative of the prevailing standard of excellence, its average performance fully bears out the assertion that we are in a stage of transition, and that, as regards the interpretation of operatic rôles also, the scope of the performer has been enlarged at the expense of the standard of quality. Localization and concentration of effort no longer exist, the performer being expected to master every style and mode evolved during a century far more prolific of musical achievement and development than any of its predecessors.

The spirit of the nineteenth century was not favorable to the production of works characterized by an almost Greek calm and repose. In Mozart, the most wonderful of all composers, because his works baffle all analysis, the musical forms are all-sufficing. Anything that is added is superfluous and mars their beauty. They may be compared to the statues of Greece, which may be ever contemplated anew with perfect delight. They baffle analysis as do the crystals which Nature fashions in infinite variety, though each form is complete and harmonious in itself. To reincarnate these eternally beautiful and harmonious forms of Mozart, one must, however, master the secret of the rhythm. That alone is the "open sesame" which can unlock the treasures of the modern Orpheus. These phrases, which are so perfect, ever seem to be in suspension: they are volatile and elusive. Take the rhythm but an iota too fast or too slow, and what happens? Like the famous Prince Rupert's drops, they immediately crumble into dust. The key to the rhythm mastered, a close blending of tones reveals itself as a requisite. However, it is neither the *legato* nor the *bel canto* which is here involved, but something underlying all this, and deeper. It is the psychological element — an element to-day almost wholly disregarded, although it should be the vital basis of all investigation and of all artistic effort. Neither as regards "Le Nozze di Figaro" nor "Il Flauto Magico" were efforts discernible to meet the requirements of the music or the *mise en scène*. Such a performance as that of "Il Flauto Magico" is not calculated to increase the veneration for Mozart or to foster an appreciation of his work.

Members of the old operatic guard tell us that "it was so way back

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in '59, it has been so since, and it always will be so." Why should it be? Conceding numerous imperfections and inadequacies in the libretto, the opera could nevertheless be far more effectively rendered than heretofore, provided the scenic changes were skilfully executed and the music performed with a proper appreciation of the rhythm. As regards the merit of the plot, that is a matter of individual opinion; and it may be that the last word has not yet been said upon this subject. My only contention here is that, if an opera is at all worthy of representation, such representation should be adequate to its artistic demands. In the present instance, the conception or lack of conception on the part of the cast furnished indisputable proof of the fact that Mozart is farther removed from them, both in time and in spirit, than any other composer.

That we are in a period of transition is demonstrated by the fact that Wagner's is still to us the "Music of the Future." We have not proceeded far toward an ideal interpretation of his works; but it is pleasant to record that isolated instances reveal an increasing insight into the artistic intentions of the composer. The declamatory element, so essential a feature of the "Cycle," though sometimes overdone, is receiving greater recognition; and the difficulty seems to lie in the establishment of the proper relation between this and the lyrical element. This matter has justly received considerable attention at the hands of our musical critics during the present season, and has been discussed by them in detail. To enter upon it now would involve an investigation far exceeding the limits of this paper; but I here take occasion to pay a well-deserved tribute to those representatives of the New York press who have from time to time agitated this important question, and whose efforts during the past generation have contributed in no slight degree to the advancement of Wagnerian art. It may be in place, however, to emphasize one important point: It is a well-known fact that the traditions of art are, in a sense, long-distance communications, and, like these, are likely to suffer in the course of transmission; so that it sometimes becomes extremely difficult to say where the trouble lies, whether in the transmitter or the receiver. I here refer to the "Bayreuth School" and its disciples. A better appreciation of the Wagnerian text has at last been secured. Let us be thankful for that, and not too hastily condemn an exaggeration of the "Sprachaccent," or purely textual feature, until we have fixed the blame therefor beyond the shadow of a doubt.

It is, therefore, above all, the dramatic element — that primary requisite which gives verity and vitality to all artistic representation — that does not receive sufficient justice at the hands of our artistic expo-

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nents, conductors and singers alike. We have had good voices in plenty during the season just completed. Where can we find a more brilliant array of vocal talent than Mmes. Gadski, Eames, Nordica, Sembrich, and Schumann-Heink, and MM. Scotti, Van Rooy, and Bispham? Tenors of the first magnitude are rare, and it is said that we have had the best obtainable. Making due allowance for acknowledged deficiencies on the part of certain members of the troupe, our vocal ensemble, broadly viewed, has therefore been fairly satisfactory. Our dramatic ensemble, on the other hand, has in many instances been practically nil.

As regards the individual members of the company, Signor Scotti has been almost uniformly good in all rôles, excepting a few in which the lyrical element predominates, such as "Don Carlo" in "Ernani." The rich and sonorous voice of this singer, sympathetic in quality and practically inexhaustible in volume, and his eloquence of gesture, dramatic inflection, and remarkable versatility, in themselves constitute a rare combination of excellent qualities. More important, however, than these is the faculty of dramatic insight which Signor Scotti possesses, and which enables him as "Baron Scarpia" and "Comte de Nevers" to exert so telling an influence upon his environment. I am here speaking of an almost uniformly excellent impersonation. Mmes. Schumann-Heink, Nordica, Sembrich, and Scheff, and MM. Burgstaller, Van Rooy, De Reszke, Reiss, and De Marchi, as well as several other members of the company, may also be said to possess this faculty in a greater or lesser degree. Nor would it be difficult to pick out special instances of high dramatic achievement, as exemplified in the inimitable "Mime" of Reiss and the powerfully characteristic portrayal of "Kurvenal" by Van Rooy. Nevertheless, one fact stands out conspicuous: the *tout ensemble*, in a dramatic sense, was wofully deficient. It is due to this fact that the masterpieces of Meyerbeer and of Wagner are spun out to an interminable length, with the result that our patrons of the opera expatiate upon the "heaviness" of Wagnerian music. With greater dramatic intensity, vigor, and motion, in text, tone, and accompaniment, it may be eventually possible after a Wagnerian performance to get home at a reasonable hour.

It is fortunate that at this juncture there has been selected to sway the operatic destinies of New York a man whose antecedents would seem especially to qualify him for the task. Let it be borne in mind, once for all, that the primary requirement is dramatic unity. In order that this aim shall be realized, we must have a constellation of "stars," but of "fixed stars." It is doubtful whether the public will be content to

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return to one-ring performances; and there is no reason why German, French, and Italian opera should not be given as heretofore. Nevertheless, in order that great ends shall be attained, some sacrifices must be brought. Let us balance the pros and cons involved in this proposition.

The present system admits of more frequent changes of cast, and in this way new artists may be from time to time brought before the footlights. Variety has its charm, but on the operatic stage it is counterbalanced by many other far more important considerations. Were this variety to include striking originality of conception on the part of the individual artist occasionally introduced to our public, much might be said in its favor. But how rarely is this met with! Marianne Brandt, in some respects the most gifted and versatile artist of her generation, was by no means a beautiful woman; yet her wonderful spirit shone resplendent through everything that she did. In her, it is true, dramatic insight was combined with a magnificent voice. Yet the voice itself, however perfect and beautiful it may be, and however intimately it may be associated with the personality of the performer, is still but an instrument. "The play's the thing." During almost the entire season the title-rôles of the Wagnerian operas and music-dramas have been sung by an excellent tenor wholly lacking in dramatic instinct and totally devoid of histrionic training. Do we realize that during the entire recital of the tragic death of Siegmund by Brünnhilde, the relict of the deceased, who had been saved at such imminent risk and great cost, stood absolutely motionless, as if awaiting the final signal of release from an invisible photographer; and that during the climax of the opera "Lohengrin," where the hero at last conforms to Elsa's perfectly natural womanly curiosity to know something about him, the same lady maintained an equally impassive attitude, expressing neither surprise nor regret? What vocal excellences or personal charm can atone for such a lamentable deficiency in the primary requisite of the stage?

Granted, however, that it were possible under the present system to obtain from time to time admirable impersonations of leading rôles, would this compensate for the lack of a splendid ensemble under the supervision of a first-rate stage-manager and under the leadership of the best musical director obtainable, capable of indicating the proper *tempo*, the slightest deviation from which completely mars the effect of a musical composition? There is much less choice in the selection of *tempi* in music than is generally supposed; and it devolves upon the director to indicate with his baton the inviolable subdivisions of the rhythm. To-day our orchestral leaders are completely at the mercy of the several

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singers, who can either fall into a jog-trot, or race at will. Many *nuances*, bearing upon expression and phrasing, are permissible; but the method of trifling with the minute details of the rhythm, almost universally in vogue to-day, is just as absurd as if an actor were to dissect each word of his text not only into its component letters, but into the phonetic constituents upon which these are based. With the organization of a permanent company, aiming, above all, at vivid dramatic interpretation and at the establishment of a perfect ensemble, the "heaviness" of Wagner would soon vanish. Were it possible occasionally to have visiting artists of pronounced individuality, who would readily fall into their places in the cast, a greater variety could be secured. On the whole, dramatic verity in word, music, and gesture, even with a certain uniformity of color, is preferable to the present system; and I am convinced that, with the establishment of this, many artistic values which to-day obtain will in a very short time come to be regarded as fictitious.

Yet, even as regards the occasional introduction of new talent, the outlook would be far more favorable than might appear at a first glance. It is a well-known fact that there is a dearth of good singers, and especially of good tenors, abroad. We have now a school of opera in this city, and many of our young aspirants to fame would be glad of an opportunity to show what they can do. What splendid encouragement would the prospect of a début at the Metropolitan afford these young people! And why should it not be so? Was it not upon the stage of Gotham that Madame Malibran, perhaps the most gifted singer of the nineteenth century, laid the foundation of her fame? Was it not from here that the "divine" Patti, at one time the greatest exponent of the *bel canto*, set out on her tour of conquest? Is not the very capital of our State represented in the annals of the operatic stage by Madame Albani? Continuing our quest "'way down East," where can we find a finer "Isolde" than Madame Nordica? Why should it be necessary for a man like Philip Brozel, whom the German papers designate as "an American of the true Yankee grain," and who, as "Lohengrin" and "Tristan," was recently greeted by one of the most music-loving and critical audiences of Europe "with frantic applause" — why should it be necessary for him to make his début in Budapest? We have had any number of importations from abroad — "court singers of high repute," "idols of the Parisian public," and pilgrims from the very Mecca of the faithful, Bayreuth. Yet it has been demonstrated, time and again, and especially this winter, that a European reputation is by no means a passport to American favor. Nor should it be. Instead of squandering vast

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sums upon European "celebrities," who are frequently disappointing, let us give our own countrymen a chance. This can be done most economically and most thoroughly when our Metropolitan company is established upon a permanent basis.

As the gift of artistic interpretation is to-day not confined to any particular nation, so the development of musical composition does not lie in the direction of nationalism. Nevertheless, it is our duty to foster native talent, creative as well as interpretative, first and foremost, in order that it may at least have an equal chance with competitors from abroad. The national spirit is probably strongest to-day in Slavonic countries, particularly in Russia; but in Germany, Austria, Italy, France, Denmark, Holland, and Belgium, also, much is done to encourage home talent. On the other hand, the neglect of British composers has recently induced Sir Alexander Mackenzie, principal of the Royal Academy of Music, to enter upon a crusade in Canada, whence it may be that he will visit the United States. On this tour, announced for last month, not only purely orchestral compositions by English composers, such as Sir Charles Stanford's "Irish Symphony" and Sir A. Mackenzie's "London by Day," but music of a more dramatic nature, such as German's musical setting of "Henry VIII" and Mackenzie's overture to "The Little Minister," are to be performed.

Now, in advocating the encouragement of American operatic composers, I do not by any means wish to imply that subjects taken from American life are to be chosen, or that a new style, essentially American, is to be evolved. As before stated, the development of art does not lie in the direction of nationalism. Even in Russia, where it is the logical policy of the Government to promote a distinctively national art which shall draw its material from Muscovite history, and where, for several other reasons also, such encouragement finds a certain justification, the composers are by no means confining themselves to these subjects — as demonstrated, for example, by Napravnik in his successful opera, "Francesca da Rimini." The chief fact to be borne in mind is that native composers have an opportunity to obtain a hearing for their works; and, with the establishment of a permanent, well-organized operatic company in New York, American musicians also may become more hopeful. It may well be then that Wagner's prophecy to the effect that his successor would come from America will be fulfilled, and that we shall some day have a product, not merely cosmopolitan, but universal, and fundamentally human in the Wagnerian sense.

Those who are either forever "looking backward," or merely contem-

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plating art in the light of present political and social conditions, confidently declare that the Anglo-Saxon race is incapable of producing a musical genius of the first order — a statement frequently accepted as self-evident, although it is but a mischievous half-truth. The fact is that the signification of the term "musical" has undergone considerable modification. The relation between music and poetry has during the last three generations become closer and closer. Even in the so-called "romanticists," Schumann, Chopin, and Mendelssohn, the poetic element is far more pronounced than is generally supposed. In the "Drama of the Future," finally, we have a complete union of the arts. True, in Wagner, the emotional or musical element was the primal impulse; but it by no means follows that those capable of infusing new life into the fabric created by him shall be similarly constituted. On the other hand, it should not be forgotten that the term "American" is very broad in its application. It does not include the Anglo-Saxon alone, but several millions of the descendants of those nations who contributed to the development of music when that art existed purely and simply for its own sake. There is consequently no reason whatever why we should not be rich in artistic material capable of development. The trouble is that this *development* has been wrong; and no influence more potent to effect a revolution in this regard can be suggested than an operatic stage upon which masterpieces may be adequately performed so that their essential dramatic content may be fully grasped, not only by the public at large, but by the ambitious student desirous of obtaining light. Why should we not make a beginning in this city?

The educational bearing of such an institution, with its far-reaching results, should alone commend it to every right-minded person. But there is still another advantage deserving of mention. The repertory of a well-organized and permanent opera company could be constantly enlarged by the addition of new works which have obtained success abroad. At present, the distribution of suitable rôles is a matter of extreme difficulty; and in the preparation of a new work for representation the manager is constantly compelled to consult the whims and caprices of the individual members of his company. That in the face of such obstacles good results have been achieved by Mr. Grau is proof of the remarkable tact and executive ability of our recent manager. Under a régime such as I have indicated, new operas could be incorporated into our répertoire and would constitute a permanent possession.

It may be urged that the manager cannot be guided solely by a con-

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sideration of the artistic element, and that certain social and pecuniary factors also demand consideration. The history of our stage has shown, however, that the American public has been frequently won over to projects of which it at first disapproved, and that in matters artistic, as in many others, our people have a keen perception of character and will cheerfully lend their assistance to those in whom they repose confidence. The responsibility will, therefore, rest upon the director of the enterprise, who should be absolutely unhampered. He should act with great discretion in the selection of his advisers and appointees; and the greatest difficulty he will encounter will be in the selection of a musical leader endowed with that rarest of all attributes, artistic insight.

Mr. Hertz, our present conductor of Wagnerian opera, is a man of engaging personality, absolutely devoid of affectation — a rare trait — thoroughly painstaking and sincere in his work, and possessed of greater ability than several of his predecessors. He has here and there produced excellent results. His playing of the animated passage at the end of the "Vorspiel" to the "Götterdämmerung," depicting the progress of the hero, Siegfried, through the valley of the Rhine, may serve as an example of the inexpressibly vivid effect which the proper rendering of any part of a Wagnerian score is capable of producing. Even for such isolated instances of dramatic insight we should be grateful, as they constitute a performance relatively superior to what is generally offered. There are many conductors of brilliant reputation abroad who, apart from a certain degree of polish as regards technical details, cannot hold a candle to Mr. Hertz. But all this is purely relative. Mr. Hertz's possible achievement under more favorable conditions and with absolute authority cannot, of course, be gauged with any degree of accuracy. There are any number of purely orchestral passages where he has fallen into the error of dragging the *tempo*, as, for example, in the overture to "Tannhäuser" and in the so-called "Funeral March" of the "Götterdämmerung," where the phrases were rendered, as they usually are, in a detached, meaningless, and unsatisfactory manner.

This dragging of the *tempo* has hitherto been the bane of nearly all Wagnerian performances, and is very largely responsible for the designation "heavy" as applied to Wagner's works. In contradistinction to most other dramatists, Wagner brings few persons upon the stage. He compensates therefor by the tragic depth and intensity of the fundamental passions and relations which he describes. In endeavoring to portray these, he has developed in an unprecedented degree all the means of expression, uniting them into a homogeneous entity. As such, how-

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ever the works of Wagner are rarely produced. The metre of the text and, in an infinitely greater degree, the rhythm of the orchestral accompaniment — always full, rich, intensely emotional, and vivid, but never crude — are very rarely presented as a unit. The latter, also, is separated into minute particles, and becomes, so to speak, syllabic in the musical sense; so that the effect produced is akin to that suggested by the speech of those afflicted with partial dumbness: it is incoherent, and therefore preternaturally loud. This is the *raison d'être* of Wagnerian "heaviness."

Perhaps reasons may be assigned for certain lapses on the part of Mr. Hertz; but, in one respect, we should be loath to part with him, for we may travel far and do worse. One fact remains. Unless Mr. Conried can appoint a conductor endowed with the gift of true insight so far as musical phrasing is concerned, and invest him with sovereign powers, it would be preferable to retain the present system. There is nothing more difficult to find anywhere at the present day than a conductor capable of grappling with the musical side of this problem; and it may, therefore, be well here to indicate the reef upon which an operatic enterprise, however perfectly equipped, may shatter.

Opera Abroad.

In Europe, as in America, Wagner dominates the operatic stage. His "Siegfried," the incarnation of Teutonic heroism, has gone forth to conquer the world, and during the last year has even succeeded in capturing Paris. In 1870 the cry of France was "À Berlin"; in 1903 the cry of the Wagnerian legion is "À Paris"; and, in opening her gates to "Young Siegfried," the art-centre of France has given evidence of that generous enthusiasm for a great idea which constitutes the most conspicuous characteristic of the French people. The extent of Wagner's popularity in France is demonstrated by the fact that in the extremely close race between the great German composer and Gounod, during the season of 1902, the former came out winner, the odds being forty-four performances for Wagner as against forty-three for the composer of Faust. At Berlin, also, Wagner heads the list with a majority of thirty-seven performances (!) over his rival Meyerbeer. But these victories are by no means confined to the respective capitals of France and Germany. Think of that most typical of all German operas, "Die Meistersinger," being performed at Rome and Naples, the old strongholds of Italian music. East, west, north, and south, they go forth to conquer

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—"The Flying Dutchman" to Lemberg and Moscow; "The Götterdämmerung" to Brussels; "Tristan" to Budapest; and "Rheingold" to Nice.

In the midst of these victories, those should not be forgotten who bore the brunt of the battle when Wagner and the ideas for which he stood were assailed on every hand. One of these was the late Wilhelm Fritsch, the founder and editor of the "Musikalisches Wochenblatt," at one time the only musical periodical, with perhaps a single exception, which espoused the Wagnerian cause. It finally became the official organ of the Wagnerian propaganda, among its contributors being Wagner himself; and even after the establishment of the "Bayreuther Blätter" it still maintained the leadership at Leipzig, the native city of the composer, and the site, as we know, of one of the most embittered contests fought on behalf of the music of the future.

Viewing the matter in all its aspects, perhaps the most interesting feature of our recent musical development is the extraordinary ascendancy obtained by Wagner in France. It is, therefore, not astonishing that "Le Mercure de France" should recently have invited an investigation on the part of artists, philosophers, critics, and sociologists to determine whether German civilization, the extension of which has been so colossal within the past generation, had reached its zenith, or whether it was destined to exert a still more potent influence in the future. The musical side of the discussion was most interesting; and while the weight of opinion was of course strongly favorable to France, several prominent critics frankly avowed their belief in the superior influence of Germany as a primary factor of progress. Eugène d'Harcourt characteristically expressed himself to the effect that Mozart made Rossini, and that Meyerbeer and Rossini, with a touch of Wagner and a plentiful addition of Bach, were responsible for Gounod.

And now that we have spoken of the operatic Gulliver, let us take a survey of the land of Lilliput. The season has been very prolific of new operatic productions, many of which are very brief, consisting of one or two acts only. The list of composers includes representatives of every nation of Europe, and the sources from which this material has been gathered are many and various.

Few of our more recent operas are conceived upon a large scale, while many are based upon the drama and fiction of the day, and are designed primarily to amuse. Odd and striking titles are not infrequently chosen, and here and there we note a desire to introduce exotics. A vivid illustration of this tendency has recently been afforded. As

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we have pictures illustrating the defence of Tientsin, dramas on the Filipinos, novels on the Zulus, and instrumental music ("American symphonies," they are called) compounded of negro and Choctaw melodies, with a plentiful dash of Slavonic cement, so it is but natural that the greatest of our Italian composers, Puccini, should have sent to Japan for genuine home-made melodies to incorporate into his musical setting of "Madame Butterfly." All this demonstrates that what has been said of interpretation applies also to production: intensity and concentration are lacking.

An illustration of this is given by the great variety of titles chosen by contemporaneous composers to designate the nature of their product. During the early period which witnessed the creation of the masterpieces of Gluck, Mozart, Weber, Rossini, Meyerbeer, Verdi, and the earlier works of Richard Wagner, the term "opera" was generally regarded as sufficient. During the season just terminated, however, we have had a perfect embarrassment of riches so far as new forms of art are concerned. As an illustration, I select at random a series of operas, all of which, with the exception of two or three of slightly older date, have been brought out for the first time during the present season. The names of the composers are given below, the terms designating the nature of the work being printed in italics and literally translated.

Title.	Composer.	Denomination.
Titania	George Huë	*Music Drama.*
Moonröschen	Jenö Hubay	*Musical Novelette.*
Oceana	Antonio Smareglia	*Fantastic Comedy.*
Eugen Onegin	Tchaikovsky	*Lyrical Scenes.*
Der Münzenfranz	Hans Kössler	*Folk Tale.*
Le Jongleur de Nôtre-Dame	Jules Massenet	*Miracle.*
Aladdin	Emil Hornemann	*Operatic Fairy-tale.*
Der Haubenkrieg zu Nürnberg	Max Meyer-Olbersleben	*Merry Stage-play.*
Unter dem Apfelbaum	Josef Suk	*Dramatic Legend.*
Falco di Calabria	Antonio Coronaro	*Lyrical Action.*
Erlösung	Ignaz Brüll	*Pantomime.*
Sancho	Emil Jacques Dalcroze	*Musical Comedy.*
Das War Ich	Leo Blech	*Village Idyl.*
Anno 1757	Bernhard E. Scholz	*Merry Opera.*
Saul und David	Karl Nielsen	*Biblical Drama.*
Adrianna Lecouvreur	Francesco Cilea	*Lyrical Drama.*
Die Beichte	Axel Delmar	*Operatic Mystery.*

Statistics show that only a very small percentage of the productions annually brought to light survive the period of infancy. Of eleven new operas produced in 1899–1900, only two experienced as many as three performances in that year. Among the works which seem destined to

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have a longer lease of life should be mentioned first and foremost the "Götz von Berlichingen," by Karl Goldmark, whose "Königin von Saba," as we may remember, was received with extraordinary enthusiasm in New York, and became the most popular and most remunerative opera during the memorable season of 1885–86, when it was performed fifteen times before crowded houses at the Metropolitan. Although Mr. Goldmark is now in his seventy-first year, it would seem from the extremely favorable reports concerning the first performance of his new opera at Budapest that his creative powers are unimpaired. Among the rising composers of the Italian school, Francesco Cilea has recently achieved an extraordinary success at Milan with his fine musical setting of Scribe and Legouvé's well-known drama "Adrienne Lecouvreur." The young composer, a Calabrian by birth, is professor of music at Florence; and both his opera and that of Goldmark have already been placed upon the list of new works to be performed at Frankfort-on-the-Main. Among the other composers of the so-called "Veristic School" in Italy, Puccini seems to maintain the strongest hold upon public favor through "La Bohème," an opera frequently given at the Metropolitan during the last season and in many respects deservedly popular.

Upon the domain of French opera, Charpentier's "Louise," Massenet's "Le Jongleur de Nôtre-Dame," and Vincent d'Indy's "L'Étranger" are entering upon a tour of Europe. During the season 1902–03 the first-mentioned work was the most popular upon the repertory of the Opéra Comique, having passed through forty-four performances. In view of the splendid ability of Massenet, the success of his most recent production is not at all astonishing, and requires no further comment. M. Vincent d'Indy, "Le forgeron harmonieux de la musique moderne," as Louis Laloy styles him, after vainly awaiting his turn at the Opéra Comique for two years, finally succeeded in obtaining a hearing at Brussels, with fine results. Belgium has recently been conspicuously represented in the operatic field by Jan Blockx; Holland, by Cornelius Dopper; Denmark, by Karl Nielsen; Austria, by Ignaz Brüll and Karl Goldmark; and Russia, by Napravnik and Rimsky-Korsakoff. It may also be of interest to many New Yorkers to learn that a former well-known musician of this city, Emanuel Moór, has, during the last season, become rather favorably known in Europe as an operatic composer.

Towering above all the composers of Germany to-day, and of other countries as well, there is one man who, sooner or later, may perpetuate by works of striking vigor and startling originality the dramatic form created by Richard Wagner. Like every great individual, he must pur-

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sue his own course; but I am strongly inclined to believe that his opera "Feuersnot," first produced at Berlin in October and previously at Dresden, will mark a turning-point in his career. Setting himself tasks of tremendous difficulty, and choosing subjects involving the heroism of effort, he has already enlarged the limits of the orchestra by a series of magnificent works, and has introduced many novel and striking effects into the domain of choral music. But these are mere incidental results of something deeper in the man's personality, which is working out its own psychological development. Not emotion, not reflection, but action — immediate action — is Strauss's striking characteristic. We hear it in every phrase of his works. He is taxing himself to the utmost, and what he has written is preparatory in a psychological sense. No other man would be so well fitted to take in hand the magnificent material on "Wayland the Smith," suggested by Wagner, and with powerful strokes weld it into a musical drama of the first order. As it is, no better satire has ever been penned than "Till Eulenspiegel." It is therefore justifiable to assert that a new Gulliver has appeared in Lilliput.

JOSEPH SOHN.

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THE EDUCATIONAL OUTLOOK.

NOTHING appeals quite so deeply to our national bias in mundane affairs as hustle. Here is one clew to the commotion caused by President Eliot's announcement of Harvard's willingness to make a young man a full-fledged bachelor of arts in three years. The prospect of a shortening of the college course is an educational item in which even the average practical citizen can feel a genuine interest. The chance of saving a whole year of expense and responsibility to the parent and yet vouchsafing to his son a bona-fide Harvard A.B. is certainly a business proposition worth looking into. An increase of filial hustle is the only condition for accomplishing the feat. And the very hustle constitutes an education. No wonder that many a thrifty father, when he read President Eliot's declaration, began to conclude that Harvard was, after all, the best place for a young man to go to for a college education.

Suddenly the newspapers published a still more attractive bid. The President of Columbia University had figured out that he could afford to let the A.B. go for half the time usually required, if the college men were willing to put forth more strenuous efforts. For a while it seemed as if the new proposition would meet with increasing popularity. If a Harvard man can run through college in three years, amid so peaceful an environment as Cambridge, why should not a Columbian, with the hustle of Manhattan stimulating him from morning to morning, finish the race in two years? It did sound reasonable enough at first. But then the sober second thought began to deal with the situation. The A.B. did not look quite well on the bargain-counter. Some naïve citizens, seeing how low it had been marked, began to ask even such shocking questions as this: What is the use of going to college at all, and would it not be just as well to add a year or two to the present high-school course and then give to the graduates an A.B., if that is the thing they must have?

Now the latter proposition is by no means unworthy of consideration. It has behind it the weight of Germany's educational practice. The enlarged high-school would be the German gymnasium transplanted

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to our shores. A minimum of six years in the elementary and six in the secondary school, and then the technical institutions — that is the German system. The practical logic of the plan advocated by the President of Columbia University, therefore, would in its operation gradually do away with the American college altogether. The two years he thinks sufficient for a student to get what he needs after leaving the high school and before entering upon practical pursuits might just as well, and probably would soon, be attached to the secondary education period. But attractive as the move may appear to those steeped in notions brewed in Germany, it is so contrary to the distinctively American conception of the purpose of college education that Yale and Dartmouth and Williams and the other strongholds of national ideals need have no fear of losing their identity. Whatever talk there may be in public, the average man and woman of intelligence will continue to support the college not "made in Germany."

In my opinion, President Hadley, of Yale, takes the right view of this matter. His outline of the American conception of a university, which he gave in a recent address at Northwestern University, accords to the college a place of such importance as most of us have always believed it to be entitled to. The German model is primarily a group of professional schools. That, transferred to this country, would result, if President Hadley's prophetic vision may be trusted, in enthroning commercialism in its objectionable sense, as in Germany it has nurtured officialism to strength and corpulence. The English conception, where little account is taken of professional training, and where, quoting the words of President Wilson, of Princeton, "many are trained to the love of letters and science, and a few to their successful pursuit," comes somewhat nearer to the American ideal, but falls considerably short of it. President Hadley is positive that "we may regard it as settled by the logic of history that the American university, for the present at any rate, shall have both its school of arts as a centre of idealism and its several professional schools as means of practical realization of the ideals." The American university ideal, he holds, is opposed to the notion reducing the college to a sort of preparatory department, through which all should, if possible, be made to pass before entering the professional schools. The different departments, collegiate and professional, ought rather to be regarded as existing side by side. This is how he put the case:

> In many of our universities a preliminary course in college is required for entrance to the so-called "learned" professions of theology, law, and medicine. I believe that this requirement is a mistake. It involves an effort to perpetuate a dis-

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tinction which is contrary to the spirit of American institutions. Its tendency is to shut out boys whose fathers have no money from the practice of these callings. I also believe that it will tend to lower the standard of our collegiate degrees. For if we are to require a certain degree of all candidates for law or medicine, we shall be under constant pressure to reduce the requirements for that degree to the minimum which it is easy to exact of all. Let the preliminary examinations of our professional schools be fixed as high as may be necessary; but let us not, in lieu of such requirements, insist on preliminary residence at a collegiate institution from those who lack either the money or the inclination to profit thereby. And let us in the future, as we have done in the past, construct our collegiate courses to meet the needs of those who want them, instead of reconstructing them to meet the needs of those who do not want them.

This sensible statement of the relation between the college and the professional schools in our American university scheme is a reassurance that the bargains offered at Columbia and elsewhere will not just yet deprive our college youths of the peculiar advantages of their four years of idealism and the cultivation of "amity and acquintaunce."

With respectable honors to be had for two years' resident study, chances for equally wonderful docking are being searched for in other school fields. Thus two sessions of the Cincinnati convention of the Department of School Superintendence of the National Educational Association were occupied with the attractive task of formulating plans for reducing the elementary school term. Principal Coy, of the Hughes High School, Cincinnati, argued for clipping two years from the grammar school, and beginning secondary work at the end of the sixth year. His proposed increase of the high-school term at the expense of the elementary school did not, however, win favor with any but a few of the high-school people. Superintendent Greenwood, of Kansas City, Missouri, submitted a plan, successfully tried in his town, for shortening the elementary school course from eight to seven years without tacking to any other school course the one year saved by this operation. This appealed to quite a number of school men.

In discussing Mr. Greenwood's suggestions, Superintendent Boone, of Cincinnati, gave some very interesting information concerning the peculiar situation with which the schools of his city have to deal. Of the 45,000 children in the schools, 17,000 take the German language in the elementary schools, devoting one-half of their time to that subject during the first four years. The superintendent has satisfied himself by his tests that these 17,000 accomplish the work in the English course fully as well as the others do. This would seem to prove to Dr. Boone that the necessary English work could be done in six years. He found,

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further, that attendance at school is very irregular, only very few children attending the full yearly term of ten months. His conclusion was that the school course had been made up of eight years in order to meet this situation by allowances. If our children were all at school nine, or even eight, months per year, Dr. Boone thought, seven years would suffice.

This debating of the possibilities of saving time in the elementary school is bound to be productive of much good. The solution must not be looked for, however, in the mechanical lines exhibited at the Cincinnati meeting. The present civilization will not tolerate the cutting of a whole year or more from a child's allowance of educational opportunity. Prof. Fiske's principle of a gradual prolongation of human childhood supplies sufficient argument for proving the futility of shortening the period of preparation for practical life in any division of education. If the schools can do in two or three years' less time the work it now takes them eight years to accomplish, they are simply not doing enough now. The best remedy would, then, seem to be an adequate enrichment of the course.

But are the advocates of curtailment really able to prove that the elementary school has exhausted its legitimate possibilities, when they themselves are satisfied with the result? Under the prevailing plan of action, it is quite likely that a superintendent of schools can declare the elementary school work completed at almost any time, since he himself sets up the requirements and applies his own tests to prove to himself that the great goal has been reached. If he can prove that the work he laid out for eight years can be satisfactorily done in seven or six, his board of education has been rather lenient in overlooking his former error of judgment, which kept many children marking time at school when they should have been moving forward. Superintendent Boone's suggestion that allowances must be made for the absences of children does not seem to be quite just to those boys and girls who are in regular attendance. The real difficulty lies deeper down.

Eight years is by no means too long a period to set aside for elementary education. The task lies in assigning the work to be accomplished. Thus far there have been no definite standards of scholastic results for measuring whether or not the time at school has been spent to the very best advantage. Talk and pedagogic blandishment have been too frequently accepted in lieu of positive proof. Nor is this condition of affairs wholly unrecognized. The investigations of Dr. J. M. Rice in

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the last ten years or more, the researches suggested and supplemented by them, together with the published conclusions, have attacked the whole subject at a most vital point. Ways and means must be found for correctly discerning inefficiency and wastefulness in teaching. At the same time, there must be set up tangible norms by which the work and progress of schools can be tested with some degree of absoluteness and justice.

Convictions of the kind here expressed led to the organization, on February 14, of a Society of Educational Research, selecting as its special field the study of the relative values of different educational processes as demonstrated by the results obtained. The first step — the most important, probably, ever undertaken in the direction of scientific pedagogy — was the establishment of a Bureau of Educational Research under the direction of an expert, aided by an advisory board of trained practical educators. The chief business of the bureau will be to gather data and prepare comparative tables concerning the results of experiments with special methods of teaching the individual branches of the curriculum, of special systems of supervision, examination, promotion, grading, etc. A permanent director of research, with the co-operation of a special committee of the society, will look personally, or through appointed assistants, into the merits of claims for superior results, and upon proof publish the deductions. Members of the society desirous of specific information concerning the published data have the privilege of consulting this bureau. Every member will be encouraged to contribute, by making definite observations of the results of school work, and to render his collated data available for scientific purposes.

The Society of Educational Research draws a sharp line of distinction between the science and the philosophy of education, in order to prevent the obscuring of either by its being viewed from the standpoint of the other. Stating the case somewhat differently, the society will seek to discover what a pupil's average knowledge and ability should be in each subject at different periods of school life, according to the time he has devoted to those subjects; to search for the reasons why some schools succeed in justifying reasonable demands upon them, while others fail, with the same or even larger expenditure of time; and to find the remedies to be applied to schools which, from the standpoint of tangible results in knowledge and skill, make an unsatisfactory showing.

As the society purposes to limit itself to the study of pedagogical problems upon a basis of solid facts, its functions will clearly differentiate it from all other educational organizations now in existence. Its

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investigations will necessarily be concentrated upon those departments of teaching wherein the results may be subjected to more or less definite measurement. In doing this, the ideal aim of education is in no wise lost sight of or underrated. The society merely wishes to limit itself to a specific purpose, believing that shortcomings in the tangible work of individual schools and teachers should not be pardoned on mere assumptions that beneath the unsatisfactory results in practical lines there is carried on an improvement of mankind. Instead of concluding that the higher purposes of education may be well taken care of where the results in the common branches are unsatisfactory, the society chooses to proceed rather on the assumption that the higher purposes of the school are more likely to be neglected where the results examinable by simple, pedagogical methods are below scientifically justifiable standards. The position is a reasonable one, and cannot fail to win the endorsement of reasonable people.

With Dr. J. M. Rice in charge of the bureau of research, directing the collection of educational data and rendering these available for practical use by the teaching profession, there is hope that the organization of courses of study will soon build on a foundation of solid fact instead of traditional *a priori* reasoning. A further advantage to be looked for from the lines of investigation represented by this institution is that means and methods will be supplied for judging, with some degree of exactitude and justice, the fitness and success of the teacher in the instruction of children. Criteria of this nature will serve a twofold purpose. School authorities and the people generally will be able to satisfy themselves more precisely than hitherto as to the quality of the measurable work of teachers. At the same time, the teachers will be freed from the bondage of arbitrariness under which they labor at present, and which affords them no worthy measure for passing honest criticism upon the results of their own professional activity.

Dr. Rice takes the stand that a teacher cannot be really free until he has met certain minimum requirements, and has conquered at least the mechanical element of his duties in a manner so absolute that the credit due to him for it cannot be argued away. This is a most significant point. Thus far the teacher has been largely, if not wholly, dependent for an estimate of his success upon mere opinion on the part of his superiors and patrons — opinion defensible, perhaps, on the ground of plausibility, but scarcely to be considered absolutely just and final. On the other hand, there are teachers who manage to attract unusual notice by claims and seeming evidences of marvellous results, which are

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what Izaak Walton would characterize as "rather to be wondered at than believed," whose actual achievements no one has been in a position to subject to a thoroughly trustworthy scrutiny.

Educational opinion is still very much divided as to what really constitutes the freedom of the teacher, especially in a municipal school system. The position taken by the Society of Educational Research is not yet as universally conceded as its reasonableness might seem to indicate. There is one extreme wing of educational orators ingeniously arguing for a kind of freedom that would permit full swing to the exercise of the teacher's individual powers and favorite pedagogical convictions, thus virtually putting pupils at the mercy of his idiosyncrasies and peculiar aptitudes. Over against this stands a party lacking faith in the teacher altogether, and denying his right to a free exercise of individuality. The representatives of this other extreme attitude among supervisory officers would tie the teacher with Lilliputian ropes in every detail of school function. The battle is on to determine just what measure of freedom teachers should be permitted to enjoy. The National Convention of School Superintendents, in February, recognized the timeliness of the question by according it a place on the programme. An address by Mr. Charles B. Gilbert, until recently Superintendent of Schools at Rochester, New York, furnished basis and stimulus to the discussions of the issue. While avoiding the extreme views of pedagogic anarchists, Mr. Gilbert argued for an amount of freedom for teachers which would strip the schools of almost every evidence of the existence of system and unity. Under this plan a child on being transferred from one school to another, or even from one teacher to another — and in a city where a large part of the population is frequently moving there would be many of him — might find himself undergoing as unique an experience as would a patient subjected to treatment successively by a homœopath, an allopath, a hydropath, an osteopath, a Christian Science healer, an Indian medicine man, and a veterinary surgeon.

In the State of New York, the need of unification in the system of educational administration is at this time prominently before the people. A renewal of hostilities of long standing between the office of the State Superintendent of Public Instruction and the Board of Regents of the University of the State of New York is the immediate cause of the awakening of public attention to the pressing need of putting an end for all time to disputes like the present one. Under the arrangement now

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in force, the two departments are supposed to divide between themselves the responsibilities for the various educational activities carried on under the protectorate of the State. Experience has proved many times over, and it would seem often enough, that it is next to impossible to draw a clear line of division of responsibility and prerogative satisfactory to both offices. As a result there have been what Bishop Doane calls "hurtful and unhappily frequent contentions" between the two.

The apple of discord in the present wrangle appeared in the shape of a bill appropriating funds to defray the tuition expenses of pupils attending high schools outside of their home districts in cases where their own communities have no provision for secondary education. Everybody has usually taken for granted that all high-school affairs were under the care of the Regents. But the State Superintendent of Public Instruction has a logic of his own, which designated his department as the rightful distributor of the expected appropriation. His arguments thus far have not been convincing to a disinterested observer. Nor did the unwise and ungracious attack made upon the Regents by Deputy State Superintendent Ainsworth tend to lend sweet reasonableness to the claims. The advocates of unification were quick-witted enough to take advantage of this opportunity for driving home the justice of their cause. The outcome of it all was an appeal "to the Governor, the Legislature, and the People of the State of New York" to take cognizance of the repeated manifestations of evils for which the duality of the present system of public education is responsible.

The proposed legislation having most to commend itself to the good judgment of thoughtful citizens with no axes to grind would vest the power and duty of educational supervision wholly in the Board of Regents, as at present constituted. The Superintendent of the Department of Public Instruction would then come under the authority of the Regents. It is to be hoped that the legislature will finally settle this matter before adjournment. Remissness in the past in failing to legalize, long before this, a reasonable plan of unification has cost the State of New York considerable money, as it has necessitated keeping up a wasteful and conflicting double system of school inspection which, by its very duality, is injurious into the bargain.

It may be hoping too much, but it does seem that the gradual approach to unanimity, among the students of methods of State and local organization and administration of public instruction, ought to result in some plan for bringing to terms legislatures which still permit within

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their respective domains a continuance of school systems having nothing but oddity to defend them. It may be well to bear in mind, for instance, that there are still two cities in which the superintendent of public instruction is chosen in straight party contest at the general election, thus placing the office squarely in the province of political spoil. These two are San Francisco and Buffalo. The latter city has not even a school board, in the general acceptance of the term. By a strange coincidence, not altogether accidental, Mr. Henry P. Emerson, the superintendent of the Buffalo schools, was elected president of the Department of Superintendence for the ensuing year, at the very meeting which adopted a resolution favoring in its essence the appointment of the superintendent by the board of education. He has served Buffalo as well as any man could possibly have done in a system such as it is permitted to be, and the people of the city seem to be perfectly willing to elect him again next fall for a term of four years. But the system is vicious, nevertheless.

The educational convention held at Cincinnati, February 24 to 26, which has been referred to several times, was that of the Department of Superintendence, the most influential division of the National Educational Association, whose membership includes nearly all the leaders in the field of school supervision and administration. Mention has already been made of the discussions on the freedom of the teacher, the enlargement of the high-school course, and the reduction of the elementary school period. The most satisfactory debate — most satisfactory because it resulted in the declaration of a principle of school organization by the Department — was that on "The Best Methods of Electing School Boards." President Lewis H. Jones, of the Michigan State Normal College, whose experience as superintendent at Indianapolis and Cleveland afforded him peculiarly favorable opportunities for testing the comparative merits of the most common modes of school-board election, highly commended the chief features of the plan inaugurated at Cleveland. He would have five members on a city school board, one to be elected each year by the city at large. By giving all citizens a voice in the election the schools could be kept close to the people. The nominations, Mr. Jones believed, should be made by petition. He would have those who received the highest number of bona-fide signatures of citizens declared regularly nominated. The function of the school board, he declared, in harmony with the best educational opinion on the subject, should be strictly legislative. The work itself should be carried on

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by two executive officers, one being a manager having charge of the business affairs, the other being the superintendent elected by the board for six years, removable only by impeachment for malfeasance in office, with full charge of the appointment, supervision, transfer, and dismissal of teachers.

Superintendent John W. Carr, of Anderson, Indiana, praised the Indiana plan, which trusts to common councils for the election of school boards. The council-made school boards are wisely restricted to three members, one occupying the attention of the aldermen each year.

Superintendent W. W. Chalmers, of Toledo, Ohio, had most of the superintendents with him in stating emphatically that he would rather trust the people than common councils or mayors for good school-board members.

Superintendent Carroll G. Pearse, of Omaha, did not agree with Mr. Jones as to the desirability of a bi-headed school system. He said that the management should be unified in one responsible head, with control of the different departments.

President Eliot, of Harvard University, gave hearty endorsement to the movement now under way for utilizing more fully the plant of a city school system. He treated the matter from a common-sense, business point of view, advocating school extension on the ground that the municipal system of education supplies the best available plant for increasing the productivity and the social welfare of a city. He laid special stress upon the economic value of wisely conducted evening schools, and upon the benefits accruing from vacation schools. He also pointed out a number of the many advantages that economic society may derive from the right sort of industrial training in the schools, carried on through the whole year in the day as well as evening schools of primary and secondary grade.

President Eliot explained that, naturally, under the new order of things the city schools will need ampler grounds, more assembly-rooms, and many other commodities, but that the investment is sure to yield adequate returns in the development of the school into a free and useful neighborhood centre.

The needs of the rural schools occupied a fair share of discussion. The extension of industrial education, especially training in agriculture and manual work, was strongly urged. In this connection it may be interesting to note that Michigan, which has been a pioneer in promoting this useful movement, is devising ways and means for making its State Normal College at Ypsilanti more practically efficient for training

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rural teachers. The plan is to have a model building erected with manual training rooms and all the appliances and material necessary for teaching a country school. If a model farm could be conducted with it and the course made to include also horticulture and arboriculture, the departure would meet the demands which the most enlightened students of the rural school problem would make upon a teachers' training school.

Dr. William T. Harris, United States Commissioner of Education, explained the value for American students of the Rhodes scholarships, of which there are one hundred, amounting to $1,500 each. In the opinion of Dr. Harris, these scholarships should be taken by bachelors of arts only, as American undergraduates would not feel at home in Oxford University.

Prof. Alvin W. Small, of the University of Chicago, gave an address on "Co-education in High Schools and Universities," in which he advanced a novel interpretation of the much-talked-about plan adopted by the University of Chicago. He said that the intention in segregating women and men was not to abandon co-education, but merely to reduce the number of students in the classes — truly a remarkable procedure for solving an arithmetical problem.

Prof. C. L. Richards, Director of Manual Training in the Teachers' College of Columbia University, presented "Some Practical Problems in Manual Training"; three prominent women teachers gave their views concerning "Literature in the Grades, and How to Use It"; and several round tables were occupied with the informal discussion of topics of special interest to the participants. It was a busy meeting, with a programme fully answering the expectations of the Department.

The following school superintendents were elected as officers for the ensuing year: President, Henry P. Emerson, Buffalo, New York; vice-presidents, Edwin B. Cox, Xenia, Ohio, and John W. Abercrombie, Tuscaloosa, Alabama; secretary, J. H. Hinemon, Little Rock, Arkansas. In 1904 the Department will meet at Atlanta, Georgia.

Another recent event deserving of special notice in this department was the convention of business men and educators, the first of its kind, held at Ann Arbor, Michigan, February 5–7. The conclusions drawn from the discussion were that the leading commercial men of the country agree that there is an adequate demand for the university man who is thoroughly trained in industrial affairs; that the universities, realizing that this demand is increasing, are seeking to institute proper courses for the training of their students; that the higher commercial educa-

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tional courses are now in their infancy, and just what should be taught and how has not yet been developed; and that the departments of commerce and industry are destined to become as popular and as strong factors as any of the present professional departments.

The convention was held under the auspices of the Michigan Political Science Teachers' Association.

The need of adhering, as closely as consistent with the general educational aims, to the industrial principle in education wherever primitive conditions prevail, especially in agricultural communities, is most thoroughly appreciated at Tuskegee, under the far-sighted and energetic administration of Mr. Booker T. Washington. This was again emphasized at the twelfth annual Tuskegee Negro Conference, held at Tuskegee, Alabama, on February 18 and 19. Mr. Washington presided, and explained that the purpose of this organization, which is now national in its character and influence, was to assist in uplifting the colored race. He said:

> From the first it has been the main work of this conference to confine itself to a simple and informal consideration of the methods and means of securing homes, the freeing ourselves from debts, the saving of money, the encouragement of intelligent producers, the payment of taxes, the cultivation of habits of thrift, honesty, and virtue, the building of schoolhouses and churches, the securing of education and high Christian character and friendship between the races. While not forgetting other important interests of the race, we believe that these constitute the primary foundation upon which all races began their career of freedom and usefulness.

"Buy land," was the rallying cry at the conference: every speaker emphasized the importance of acquiring property; and Mr. Roscoe Conkling Bruce, head of the academy at Tuskegee, presented a report showing that, as a result of Mr. Washington's labors, thousands of negroes in the South, who were living on rented land only a year ago, own their own farms to-day.

OSSIAN H. LANG.

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EDUCATIONAL RESEARCH: TALENT VS. TRAINING IN TEACHING.

In The Forum for October–December, I presented the results of a test in arithmetic. The test had been submitted to the pupils of the fourth, fifth, sixth, seventh, and eighth year classes in eighteen school buildings, representing seven cities, and the total number of children examined was not far from six thousand. While the figures obtained were surprising in many ways, they were particularly so in these two points: (1) That the results obtained in the different schools varied to a remarkable extent, the averages per school ranging from 25 to 80 per cent; and (2) that when the schools were listed in the order of merit, those of an individual locality were, with a single exception, so close together that the results obtained in a given school were, to a large extent, representative of all the schools examined in that locality. In other words, when the results were good in one building they were good in other buildings examined in the same locality; and the same was true where they were fair or poor.

In addition to the study of results, I entered into a detailed inquiry concerning the conditions under which the results had been obtained, in the hope of finding the cause or causes of success or of failure. Among the points considered were the age and home environment of the pupils, the size of each class, the methods of instruction, the qualifications of the teachers, natural and acquired, the time devoted to arithmetic, and the character of the supervision. A study of the results from these various points of view led me to the conclusion, published in the January issue, that the controlling element in the achievement of success lay in a single phase of supervision, namely, in the training afforded to the teacher through systematically testing the progress of her pupils by means of examinations consisting of problems that cannot be solved unless the children thoroughly understand the principles of arithmetic — from the beginning of the subject up to the time the examination is given — and are possessed of the power of applying them.

Since the appearance of my January article, two important points

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have been raised in criticism of my deductions; and, for the sake of throwing light on the subject from additional points of view, I shall devote the present article to answering them. They are:

1. That in placing the responsibility for the results primarily upon the supervision, I had underestimated the value of the personality of the teacher; and

2. That a single test will not suffice to bring out the comparative strength of the pupils; that the ideals in arithmetic differ in different communities; and that if the test had been of a different character the order of merit might have been reversed.

In regard to the first point, I desire to impress not only the fact that my conclusion was based upon the results, but also that it does not in any way conflict with generally accepted pedagogical views. Indeed, all advanced educational legislation is based upon the belief that pedagogical talent, like any other talent, is subject to development through training. In evidence of this we find not only that institutions for the training of teachers are growing more and more in favor, but that our elementary school systems are planned upon the idea of the need of continuous training. Hence, our supervising principals, special supervisors, and superintendents of schools. At the same time, it cannot be doubted that natural endowment is of inestimable value in teaching, as in every other field; so that the question at issue really resolves itself into that of the relative value of talent and training. That this question may be studied from the standpoint of statistics, I have, in table 1 (p. 591), arranged the figures in a way that will show the influence of the personality of the teacher as compared with that of training; but before entering into the discussion of that table, I shall cite a few instances to illustrate that even from a theoretical standpoint a deficiency in talent can be overcome by training.

Let us first imagine two individuals one of whom is a pedagogical genius, while the other is absolutely devoid of the pedagogical instinct. In this case, there is little doubt that the former would always be the better teacher, even if she should have no training whatever, and the latter should have the benefit of the most thorough training that the world can afford.

Next, let us imagine two individuals one of whom is not really a genius, but whose pedagogical talent is considerable, represented, say, by 75 per cent, while the other is not altogether pedagogically weak, but possesses native ability to the extent of 25 per cent. Under these circumstances, it is not at all impossible to conceive conditions under

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which the efficiency of the latter could rise to the level of that of the former. If both these young women should pass through the same course of training before receiving their licenses to teach, and then should secure positions in the same school building, *i.e.*, under the same principal and superintendent, it is quite rational to assume that their relative native efficiency would tell, and that the work of the one would always be far superior to that of the other. But if, after receiving their licenses, the young lady with considerable talent should obtain a position in a school where the principal and the superintendent permit her to drift, while the other should enter a system where the superintendent is vigilant, and a building whose principal is not only a thoughtful and tireless worker, but in addition has a genius for developing the best that is in his teachers, is it not conceivable that, in time, the teacher who has been permitted to drift will accomplish less than her native talent would warrant, showing an efficiency of not more than 50 per cent, while the teacher who has been put on her mettle will so have developed her native ability that her efficiency will have risen to 50 per cent?

And, thirdly, let us imagine two teachers whose native efficiencies are 60 and 40 — and these are really representative of the average persons who enter the profession — is it not conceivable that, under the conditions just outlined, the efficiency of the former, who has no specially marked bent for teaching, would fall to 30, while that of the other, who is not particularly weak at the outset, would rise to 70, so that at the end of a given period the odds would be strongly in favor of the teacher who started out in life with less in her favor?

That, in this instance, theory is duly borne out by the facts is very strikingly indicated in table 1, which shows, side by side, the influence of the teacher's personality as compared with that of the system of schools in which she is employed. The figures represent, first, the results obtained in every class-room of the four schools examined in city I, where the test of the character described is used by both the superintendent and the principal; secondly, those obtained in the three schools of city VI, where no tests are made by superintendent or principal; and, thirdly, those secured in the three schools of city VII, where tests are made by the superintendent, but the problems are limited to the grade work of the class.

That the personality of the teacher is not the controlling element in the achievement of success is, in my opinion, amply proved by the fact that in cities VI and VII the results, with few exceptions, fell below a

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TABLE I.

4.			5.			6.			7.			8.		
City I.	City VI.	City VII.	City I.	City VI.	City VII.	City I.	City VI.	City VII.	City I.	City VI.	City VII.	City I.	City VI.	City VII.
....	....	....	85.6	....	....	88.8	....	....	....	....	....	86.6	....	....
....	....	....	85.3	....	....	....	....	....	....	....	....	....	....	....
83.0	....	....	84.9	....	....	81.5	....	....	....	....	....	80.9	....	....
....	....	....	83.5	....	....	....	....	...	....	....	....	....	....	....
....	....	....	....	....	81.2	....	....	....	....	....	....	....	....	....
....	....	....	79.0	....	....	79.4	...	....	....	....	....	....	....	....
....	....	....	77.8	....	....	....	....	....	....	....	....	....	....	....
72.4	....	....	75.0	....	....	72.4	....	....	....	....	....	72.7	....	....
....	....	....	74.6	....	....	72.2	....	....	....	....	....	....	....	....
....	....	....	71.1	....	....	71.1	....	....	71.7	....	....	....	....	....
63.3	....	....	66.8	....	....	....	68.3	....	65.1	....	....	66.5	....	....
62.7	....	....	....	....	....	67.1	....	....	62.0	....	....	61.0	....	....
....	....	59.3	....	....	....	....	....	....	....	....	....	....	....	....
56.8	....	....	....	55.0	55.1	....	....	....	58.3	....	....	....	....	....
56.4	....	....	....	....	....	....	....	....	....	....	....	....	....	....
51.8	....	....	....	....	52.4	....	....	....	54.6	....	....	....	....	....
....	....	....	....	....	....	....	46.1	....	....	....	....	....	....	....
....	....	47.4	....	....	49.6	....	46.0	....	48.8	....	....	....	....	....
....	41.6	41.1	....	45.3	....	....	....	40.2	41.7	....	....	....	....	....
....	36.8	....	....	38.1	....	....	34.5	34.0	....	33.5	....	....	35.2	....
....	....	....	....	....	37.5	....	....	....	....	30.5	....	....	....	30.0
....	....	....	....	....	....	....	....	....	....	....	....	....	26.9	....
....	28.1	....	....	....	....	....	....	27.6	....	....	29.7	...	23.3	....
....	....	....	....	....	....	....	....	27.3	....	....	....	...	....	21.6
....	....	....	....	....	....	....	....	26.5	....	....	....	....	....	20.4
....	....	....	....	....	....	....	....	....	....	19.5	19.6	....	....	....
....	....	....	....	....	....	....	....	....	....	....	17.3	....	....	....
....	....	....	....	....	....	....	....	....	....	....	10.0	....	...	18.9
....	....	....	....	....	....	....	....	....	....	....	8.9	....	....	11.3

reasonable standard in every class-room examined, while in city I, with few exceptions, they rose above that standard. However, the figures do not show that nothing is to be credited to the personality of the teacher; for while in cities VI and VII the results, on the whole, were low, they were not equally low; and, on the other hand, although, in general, the results in city I were high, they were not equally high. That is to say, differences in percentages allowing for differences in the personality of the teachers were well marked in all these cities, but the results were on a different plane. The scope representing the teacher's personality is represented by the differences in the individual columns, *i.e.*, by the percentages obtained in the different class-rooms of the same grade in any one locality, while the influence of the school-system as a

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whole is seen when the figures of one column are compared with those of another.

Taking the individual columns of grade 4, we find that in city I the class-averages run from 51.8 to 83, showing an extreme variation of 31.2; in city VI, they vary from 28.1 to 41.6; and in city VII, from 41.1 to 59.3. If we now compare the figures of one column with those of another we can see the influence of the system; and by drawing a line across the three columns of grade 4 at 50, we find that all the classes examined in city I are above it, while, with a single exception, all those of cities VI and VII are below.

In the 5th grade, barring a single instance, the poorest grade average of city I is 11.8 per cent higher than the best of cities VI and VII, and 29.3 higher than the poorest. In the 6th grade, again leaving out an exceptional instance, the poorest average in city I is 21 per cent higher than the best of cities VI and VII, and 40.6 per cent higher than the poorest. In the 7th grade there is no exception, the lowest average in city I being 8.2 per cent better than the highest in the other cities, and 32.8 per cent better than the lowest. And in the 8th grade of city I, the lowest average is 25.8 per cent better than the highest in the other cities, and 49.7 per cent better than the lowest.

Looking at the matter from another point of view, we find that in 30 class-rooms out of the 33 examined in cities VI and VII, the highest marks were below the poorest obtained in the 38 class-rooms examined in city I.* But the influence of the system is brought out most strikingly when the lowest averages of cities VI and VII are compared with the lowest of city I, as this shows most directly the general uplift given by something in the latter's system, which I believe to be the stimulating test.

It may be believed that some of the questions were too difficult for grades 4, 6, and 7. If so, we may leave these grades out of consideration, and confine our attention to the 5th and the 8th, where the problems should not have been beyond the pupils. But this does not change in any way the comparative standing of the schools represented.

In spite of the figures, it is difficult to say just how many counts out of 100 should be attributed to the personality of the teacher and how many counts to the system. The differences are, perhaps, as marked in the columns which allow for the one as they are in the comparisons representing the other. But the variations in the individual columns do

* To avoid needless overcrowding of the column, two class-rooms, averaging 77.1 and 71 respectively, were omitted from city I, grade 5.

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not represent the influence of the teacher's personality alone. Here allowance must be made for another important factor, namely, the differences in the ability of the classes, which are sometimes very marked.

But the potency of the system is clearly indicated by the fact that under its influence the poorest teachers will be able to make some kind of a showing with the poorest of classes. Taking city I, we find that while in the 4th grade three of the classes fell below 60, not one of them fell below 50; and that while two classes in the 7th grade fell below 50, not one of them fell below 40, although the 7th year test proved to have been exceptionally severe. In the 5th and the 8th grades, where the suitability of the questions can scarcely be doubted, the lowest averages in city I were 66.8 and 61, respectively, against 37.5 and 11.3. Taken all in all, I do not think I exaggerate when I say that the system is the equivalent of 25 counts. That is to say, speaking from my own deductions, I am inclined to believe that if cities VI and VII should introduce a system of testing similar to that employed in city I, and its introduction should be accompanied by a specific demand upon the principals and teachers, it would not be very long before a test equally difficult as my own would result in school averages of 60 to 65 per cent, in place of 35 to 40 per cent, as was the case when these schools were examined a year ago.

From the foregoing analysis, I believe we are justified in concluding that the question of the relative value of talent and training has a theoretical and a practical side. From a theoretical point of view, I am willing to concede in favor of personality even more than the figures show, and to go so far as to say that one who is exceptionally endowed by nature is able to rise above her surroundings, and can do as well if left to her own resources as under the closest of supervision. The figures do not do justice to this teacher, because she is simply a link in a chain, and the pupils may enter her class-room so poorly prepared that it will require a herculean effort even on her part to raise them merely to a moderate degree of proficiency.

From a practical point of view, however, the situation seems to be controlled by the training afforded by that form of supervision which tends to stimulate the teacher to do her best, because the vast majority of the teachers are persons of moderate ability, who are in need of a stimulus from an outside source if they are to do the best work of which they are capable. And, taking a community as a whole, the support afforded by such a stimulus as an ideal system of testing — in which the superintendent and the principal are factors of equal importance — seems to be

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sufficient to raise considerably the efficiency of the entire corps. The teachers' meeting is valuable, because it gives the teacher ideas; but the meeting must be supplemented by the test, in order that the superintendent may be assured that the ideas acquired at the meeting are afterward applied in practice.

I desire to add here that in the present stage of our pedagogical knowledge, when we are guided altogether by theory, poor results in a given locality do not in any way speak against the efficiency of the superintendent. Wide-awake superintendents are in the habit of following the trend of advancing pedagogical thought; and if that trend is in the wrong direction, the superintendent is not responsible. The tendency for some years past has been, for example, to oppose examinations of every form; and, in view of this circumstance, the superintendent has been fully justified in abandoning them. If, however, further investigations should substantiate my contention, and facts should prove the examination to be a *sine qua non*, then the tests will probably be the most speedily reintroduced by the very men who were most ready to set them aside. It is in questions of this kind, where strong forces are arrayed on both sides, that the value of educational research is most clearly apparent; for some of the most practical points of school administration upon which agreement cannot be reached through opinions may be decided without difficulty by statistics.

Let us now direct our attention to the second point, and endeavor to learn whether the results obtained by my test are representative of the comparative strength of the schools examined, or whether a test of a different nature, based upon different ideals, might have shown strength where weakness was manifested, and vice versa.

In formulating my problems, I did not lose sight of the fact that the courses in arithmetic vary in different communities; and I therefore endeavored to secure questions that would call for a knowledge of arithmetic such as would naturally come within the scope of all schools, regardless of what their ideals might be. In spite of my precautions, it is possible that some of the problems were beyond the scope of certain schools. If so, the matter can be easily remedied by eliminating them and drawing our conclusions from the others. But just as the exclusion of certain grades in their entirety would fail to alter the relative position of the schools, so the exclusion of certain selected problems would not alter their relative positions.

In order that the comparisons may be made by the reader from a very broad point of view, I shall place before him, first, the results that

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were obtained on each example in the five schools that passed the test satisfactorily and those obtained in the lowest six. And, secondly, I shall enter into the analysis of a sufficient number of the problems to show wherein the examination was characteristic and in what manner the pupils went astray in their work. The classification of the errors will show that, at least in the majority of instances, the mistakes in the lower grades were due to lack of judgment in the application of elementary principles, while in the upper grades they were due, for the most part, to a lack of knowledge of the principles involved. The errors made by the pupils in the stronger schools were exactly the same in character as those made in the weaker ones, the difference being simply in the number of pupils who failed.

The results obtained on the individual problems in the schools mentioned will be found on tables 2 to 5. Two percentages are given upon each example. The first represents the number of correct answers, while the second represents the problems correctly performed in principle, but wherein mechanical errors led to wrong results. For the sake of clearness, the problems have been arranged in the order of difficulty as manifested by the test, not that in which they were presented to the pupils. The questions will be found in full on pages 606 and 607, in the order in which they are presented in the tables; and for facility of reference each problem is indicated in the tables by a suggestive word or two. In THE FORUM for October, 1902, the questions were printed in their original order.

Now, if the question of ideals should play a part in the comparative standing of the schools, the comparative degree of difficulty of the various problems should be found to vary in different localities according to the special lines along which they had been working. It ought to be found that while, on the whole, some of the schools fell far behind the others, they nevertheless manifested superiority in certain directions, and would have outranked the others on a test based more generally upon those lines. On looking over the tables, however, such a condition is in no wise manifested. On the contrary, the tables speak forcibly against such an assumption, and in two ways: First, they show that the schools that passed the test satisfactorily outranked the others on every problem, and in many instances to a very large degree. And, secondly, the figures are still more striking in that they show that, broadly speaking, the comparative degree of difficulty of the various examples was found to be the same in every locality; indicating that work along special lines, if such there was, did not tell in a test of judgment. The

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TABLE 2

Fourth Grade.	Class Average.		1. Children in New York Schools.		2. Profit on House and Lot.		3. Balance for Farm.		4. Number Acres in Farm.		5. Change from $10.		6. Cream.		7. Papers.		8. Pencils.	
	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.
City VI	35.7	46.6	51.9	82.3	59.8	67.6	38.2	49.0	34.2	50.0	30.3	44.1	30.3	33.3	33.3	36.2	10.7	15.6
City VII	50.6	60.8	49.4	69.4	76.8	83.1	64.2	76.8	73.6	85.2	53.6	81.0	28.4	30.5	45.2	46.3	13.6	14.7
City I	64.7	75.0	69.5	85.5	82.2	91.2	74.6	86.1	76.8	84.0	56.0	88.8	71.6	72.8	56.6	60.2	30.7	34.0
City III, School 1	68.4	76.7	68.9	91.1	83.9	90.6	80.8	92.2	74.6	75.1	66.3	84.4	81.8	81.8	60.1	62.7	31.6	35.2
General average — all schools examined	59.5	69.9	66.6	87.1	79.5	86.9	70.1	82.3	69.4	80.0	52.8	76.5	60.3	61.9	51.6	55.3	27.5	31.8

TABLE 3

Fifth Grade.	Class Average.		Profit on House and Lot.		Length of Tel. Wire.		Number of Dress Patterns.		Cream.		Papers.		Pencils.		Profit on Flour.		Cost of Book.	
	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.
City VI	45.6	52.5	75.8	87.0	62.9	75.9	56.8	62.0	46.3	48.2	47.4	49.1	31.8	33.6	22.4	32.7	22.4	31.8
City VII	56.2	63.7	81.0	93.1	79.0	90.5	64.1	67.5	64.1	64.8	64.1	68.2	32.4	37.8	34.4	45.2	30.6	41.8
City III, No. 1	79.5	82.5	95.6	97.8	80.1	88.7	83.2	83.8	87.6	88.7	80.1	80.1	77.9	81.1	67.7	70.9	63.4	69.3
City I	78.0	83.8	94.3	97.2	86.3	91.8	90.0	94.9	88.9	90.6	81.7	83.8	70.0	76.0	61.6	74.7	53.5	61.4
General average — all schools examined	69.4	75.5	89.5	95.6	80.3	90.1	77.1	83.1	80.4	81.4	73.6	76.3	58.7	63.2	49.8	59.0	47.5	56.0

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TABLE 4

Sixth Grade.	Class Average.		Cream.		Papers.		Pencils.		Profit on Flour.		Buffalo to Omaha.		Salt Water.		Map.		Number of Books in Library.	
	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.
City VII	32.1	37.1	67.0	68.2	54.2	57.3	52.4	60.3	38.4	62.8	29.8	33.5	11.5	11.5	3.6	3.6	0	0
City VI	46.0	49.3	67.5	67.5	59.7	64.9	51.9	53.2	51.9	59.7	64.9	68.8	25.8	28.5	25.8	25.8	19.4	9.4
City I	76.2	78.5	96.8	97.2	94.8	94.8	89.6	91.3	86.5	92.7	88.9	89.9	50.8	56.4	33.2	34.6	49.1	49.1
City III, No. 1	79.3	80.3	99.2	99.2	100	100	96.2	97.3	93.2	94.7	93.9	93.9	45.1	49.6	63.9	64.6	43.6	43.6
General average — all schools examined	60.7	63.2	89.8	90.2	85.2	86.4	77.9	80.7	69.9	79.4	72.0	74.3	32.7	36.8	29.5	29.6	22.7	22.7

TABLE 5

Seventh Grade.	Class Average.		Butter.		Salt Water.		Map.		Coffee.		Number of Books in Library.		Steel.		Fruit.		Weaving.	
	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.
City VII	18.0	20.0	53.7	64.3	47.7	49.2	15.1	15.1	12.1	12.1	9.8	9.8	5.3	7.5	0	0	0.7	1.5
City VI	26.4	30.8	59.4	79.7	35.1	43.2	33.7	37.8	36.4	36.4	24.3	24.3	14.8	21.6	5.4	5.4	5.4	6.7
City I	56.7	60.3	75.2	88.0	61.0	71.1	42.2	43.1	72.9	72.9	74.7	75.2	50.9	53.2	52.7	54.1	22.4	24.7
City III, No. 1	81.1	82.3	88.1	96.6	91.5	91.5	98.3	98.3	94.9	96.6	83.0	83.0	74.5	74.5	69.4	69.4	49.1	49.1
General average — all schools examined	39.4	42.5	67.4	80.5	52.3	56.5	41.9	42.6	41.5	42.0	38.8	39.1	25.2	26.7	24.0	25.4	16.5	17.5

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TABLE 6

Eighth Grade.	Class Average.		1. Salt Water.		2. Map.		3. Number of Books in Library.		4. Gunpowder.		5. Insurance.		6. Steel.		7. Horses.		8. Fruit.	
	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.	Result.	Principle.
City VII	20.1	21.5	60.5	60.5	32.1	32.1	18.9	18.9	25.5	30.6	5.8	6.5	5.1	5.1	4.3	5.1	4.3	8.7
City VI	28.6	30.7	58.3	58.3	31.2	33.3	25.0	25.0	16.6	16.6	22.9	27.1	16.6	20.8	25.0	27.0	33.3	33.3
City I	73.9	77.2	75.1	84.0	93.7	94.2	88.0	88.0	84.5	88.0	65.7	75.4	68.0	68.0	66.9	68.0	50.5	52.5
City III, No. 1	91.7	93.9	85.7	85.7	100	100	97.1	97.1	97.1	100	94.2	94.2	88.5	88.5	91.1	91.1	80.0	94.2
General average — all schools examined	49.4	51.9	70.1	72.5	67.1	67.4	57.2	57.2	51.7	54.6	39.1	43.8	38.2	38.8	36.7	38.0	29.5	33.1

decline in the percentages from the first problem to the eighth is especially marked in the upper two lines; the occasional elevations or depressions following no general rule. It is most clearly marked in the first line of table 5, where the descent resembles a veritable avalanche.

The tables are instructive from another standpoint, namely, as indicating the child's capacity for arithmetic at different periods of school life, thus aiding in the development of standards. In regard to the mental powers of children, teachers are altogether too apt to generalize upon the basis of what their own pupils are able to do; and when a teacher is not successful, she is apt to think but little of children's minds. Lines 3 and 4 of the tables indicated show that children can reason, and that their reasoning powers, as regards arithmetic, are capable of development to a remarkable degree through training.

As to the variety of errors, these may be most conveniently studied under certain general classifications. Although the number of groups into which they could be divided is almost without limit, nevertheless, if we disregard the mechanical blunders and the problems in which the pupils failed in part only, an idea of the nature of

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the errors may be obtained for general purposes by studying them in four general classes:

1. Errors due to a complete absence of thought.
2. Errors in problems correctly performed in principle, but due to lack of reasoning in the processes.
3. Errors due to misinterpretation of a problem.
4. Errors due to lack of knowledge of arithmetical principles.

Of the total number of errors made, the vast majority appear to have been due to a complete absence of thought. Whether in such instances the children did not read the problems carefully, or whether they read them but did not understand them, I am unable to say. What they did was simply to work with the figures, stated or implied, adding, subtracting, multiplying, or dividing at random. The result of these combinations was called the answer, and the pupils did not stop to consider whether such answers bore any relation whatever to the question. For instance, problem 1, grade 4, reads:

If there were 4,839 class-rooms in New York City, and 47 children in each class-room, how many children would there be in the New York schools?

The problem did not appear to present much difficulty to the children in any of the schools, and the total number of errors was comparatively small. Nevertheless, nearly 13 per cent of the pupils failed, and of these all but a few divided, giving as their answer $102\frac{45}{47}$ children. It may be reasonably argued that children do funny things; but this does not explain why the number of children who do funny things is so much larger in some schools than in others.

In problem 2, grade 4, three numbers are stated, giving greater scope for variety. The method is, of course, $1,743 + 5,482 = 7,225$. $10,000 - 7,225 = 2,775$. The varieties presented by the pupils were:

1. $1,743 + 5,482 + 10,000 = 17,225$.
2. $5,482 - 1,743 = 3,739$. $10,000 - 3,739 = 6,261$.
3. $1,743 + 5,482 = 7,225$. $7,225 \times 10,000 = 72,250,000$.
4. $1,743 - 5,482$, etc.

The endeavor to subtract a large number from a small one is quite common, and the process in this instance was performed in four ways: (1) By borrowing; (2) by disregarding the thousands; (3) by bringing down the last figure of the upper line; and (4) by bringing down the last figure of the lower line:

1,743	1,743	1,743	1,743
5,482	5,482	5,482	5,482
6,261	2,61	1,261	5,261

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On looking over the tables, we find that no particular difficulty was experienced in three of the cities with the first five examples of the 4th grade test; so that the errors may be attributed in some measure to carelessness on the part of pupils who could have done better if they had tried. However, when we direct attention to the results obtained on the remaining three, it becomes apparent that difficulties were here presented which did not occur in the others, and that these difficulties were sufficiently great actually to place the problems beyond the grasp of many of the stronger pupils. On the first five problems the total number of failures was 22 per cent only. But on the sixth example 40 per cent failed, on the seventh, 45 per cent, and on the eighth, nearly 70 per cent.

As the number of failures on the eighth example was large in all the schools represented in the table, the conclusion is justified that it was too difficult for the grade. Examples 1–5 having proved themselves too easy for a test of power, and example 8 too difficult, the actual test was confined to problems 6 and 7. Table 2 shows that the schools represented in the lower two lines did somewhat better than the others on the easiest problems, considerably better on the really difficult one, and much better also on the problems that proved to be the true test of their power. Surely, cities VI and VII must have been working along the lines of one of these three groups of problems, but they were outranked by the others on all. Under these circumstances, it is difficult to imagine a fourth year test that would reverse the position of the schools, unless it might be purely upon abstract work. But this point is also considered in the tables, where it is shown that cities VI and VII made not only more errors in reasoning than the others, but also a larger percentage of mechanical errors.

When we consider the nature of problems 6 and 7, it is difficult for the mature mind to see why so many of the pupils should have failed upon them not only in the fourth year, but even in the sixth, *i.e.*, among those who had nearly completed their arithmetic. It will be noticed that problems 6, 7, and 8 were repeated in the test for grades 5 and 6. The questions were:

6. What will 24 quarts of cream cost at $1.20 a gallon?
7. If a boy pays $2.83 for 100 papers, and sells them at 4 cents apiece, how much money does he make?

As to the character of the errors in these problems, the same is true as of the others, namely, that they were thoughtless combinations of the numbers stated. In the sixth, most of the pupils who failed sim-

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ply multiplied or divided $1.20 by 24, disregarding the 4 entirely; and of those who used it, many multiplied 24 by 4, thus giving 96 gallons as the equivalent of 24 quarts. The typical errors were: $\$1.20 \times 24 = \$28.80$; $\$1.20 \div 24 = \$5$; $24 \times 4 \times 1.20 = \$115.20$; and $24 \div 1.20 = .20$.

The difficulty seemed to lie in the fact that the question contained two distinct terms, "quarts" and "gallons," and that a conversion from one into the other was required before proceeding. If the question had been stated in two parts — (1) How many gallons are 24 quarts? and (2) If one gallon of cream costs $1.20, how much will 6 gallons cost? — there is no doubt that most of the children would have performed the example correctly.

In the seventh example the variations in the answers were endless. In this problem, also, two distinct terms are stated, a "hundred" and "apiece," and it is necessary to convert before proceeding. Thus, again, the question would, undoubtedly, have been very well handled if it had been presented in two parts: (1) If a boy sells papers at 4 cents apiece, how much will he get for 100? and (2) If a boy buys 100 papers for $2.83 and sells them for $4, how much money does he make?

The typical errors in this problem were two in number:

$\$2.83 \times 4 = \$11.32$; and $\$2.83 \div 4 = .70\frac{3}{4}$.

Among the others the following are interesting: $2.83 + 4 = 2.87$; $2.83 - 4 = 2.79$; $2.83 \times 4 = 11.32 \div 100 = .11$; $100 \times 4 = 4.00$ $2.83 - 4.00 = .83$; $2.83 \times 4 = 11.32 \div 4 = 2.83$. Here the pupil added: "The boy did not make anything."

In a sixth year class, where the pupils had evidently had a thorough drill in decimals, the following remarkable process was found in two instances:

$2.83 \div 100 = .283 \times .04 = .01132$ $2.830000 - .01132 = 2.828886$ gain.

Other methods in the same class were:

$283 \times 100 = 28{,}300 + 400 = \$28{,}700$ gain.

$283 \times 100 = 283.00 - 4.00 = \$279.00$.

$283 \div 4 = 70.75$.

$2.83 \times 4 = 11.32 - 1.00 = .32$.

$100 \times 4 = 4.00 \div 2.83 = 1.17 + 100 = 2.17$.

It would be interesting to know what the mathematical ideals in this class really are.

The second class of errors, those occurring in problems worked upon correct principles and due to lack of judgment in performing the

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various steps, are particularly frequent in problems involving decimals. The errors are here made in the placing of the decimal point, and are due to the fact that in pointing off, the pupils do not exercise any judgment, but simply trust to luck or their knowledge of the rule. They do not seem to recognize that a blunder in placing the decimal point is liable to make the answer ridiculous, it matters not how carefully the problem may have been performed in every other way.

The first problem in which considerable scope is given for errors of this nature is example 7, grade 5. The correct answer is $1,263; but, by reason of the displacement of the decimal point, many of the pupils obtained $12.63 for the answer. Owing to the nature of the problem, this answer is not on its face ridiculous. It is, however, based on a succession of ridiculous blunders, to wit: 900 barrels of flour at $9 a barrel = $81.00, etc. In the fifth year this error is pardonable, but in the sixth, where the problem is repeated, it should be rare.

While in this particular problem the placing of the decimal point in the wrong position did not produce an absurd answer, the reverse is true of problem 6, grade 6. The question is one in division of decimals, and the answer is this: To obtain 3,896 pounds of salt from salt water containing 8 per cent of salt, it is necessary to evaporate 48,700 pounds of the salt water. Those who saw that it was a problem in division of decimals obtained the figures 48700 without any difficulty; but the placing of the decimal point where it did not belong made the answer absolutely ridiculous. The answers varied from 48,700 pounds to 4.87 pounds. The statement that it is possible to obtain 3,896 pounds of salt from 487 pounds of salt water was made by a large number of pupils, even in the 7th and 8th grades, where the example was repeated, and not a few said that that amount of salt could be obtained from 4.87 pounds of water.

The ridiculous answers to this problem so late in school life illustrate a weakness in the teaching of arithmetic which seems to be responsible for a large number of blunders in all the grades, namely, the failure to train pupils to see that a problem in arithmetic is a question which calls for a reasonable answer. If the pupils were everywhere trained to scrutinize their answers in the light of the questions, it is probable that many errors of the first class would also be avoided, and that answers stating that the number of children in the New York schools is $102\frac{45}{47}$, and similar absurdities, would be much less frequent than now.

For errors of the second class many teachers are to a certain exten[t]

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directly responsible, because they believe that a child should receive some credit for a problem if he shows a knowledge of the principles involved. This is, in my opinion, justifiable if a wrong answer should be due to a mechanical error, such as any one is liable to make, in addition, subtraction, multiplication, or division. But I believe that it is an injustice to the child to give him any credit for a problem when, in the light of the question, the answer is absurd.

An interesting phase in the study of errors is found in the problems that are misinterpreted. Errors of this nature very frequently occur in problems in which fractions are involved. For example: Problem 8, grade 5, reads as follows:

> Frank had \$3.08. He spent $\frac{1}{4}$ of it for a cap, $\frac{1}{7}$ of it for a ball, and with the remainder bought a book. How much did the book cost?

Here many of the pupils looked upon $\frac{1}{4}$ and $\frac{1}{7}$ as abstract fractions, not as parts of \$3.08, and worked the problem as follows: $\frac{1}{4}+\frac{1}{7}=\frac{11}{28}$ $308-\frac{11}{28}=307\frac{17}{28}$, cost of the book.

Again, problem 8, grade 6, repeated in grades 7 and 8, reads thus:

> A gentleman gave away $\frac{1}{7}$ of the books in his library, lent $\frac{1}{6}$ of the remainder, and sold $\frac{1}{5}$ of what was left. He then had 420 books remaining. How many had he at first?

This problem was treated in many instances in the same way as the one just cited; the fractions being looked upon as purely abstract. The following is an illustration: $\frac{1}{7}+\frac{1}{6}+\frac{1}{5}=\frac{107}{210}$ $420+\frac{107}{210}=420\frac{107}{210}$ books at first. But in this problem a class of errors appeared which I was astonished to find among pupils who had long since completed fractions. It is this, that while, in nearly all instances, the pupils understood the manipulation of fractions, many had no idea of their value. Nearly all were apparently able to add $\frac{1}{7}$, $\frac{1}{6}$, and $\frac{1}{5}$, and get the sum $\frac{107}{210}$. But in adding this fraction to 420, a considerable variety in method was found. Some took the numerator as a whole number, thus: $420 + 107 = 527$ books; others so took the denominator: $420 + 210 = 630$ books. And some added the denominator to the numerator: $210 + 107 = 317$ $420 + 317 = 737$ books.

The very low percentages obtained in the seventh and eighth grades of most of the schools examined were due in large part to errors of the fourth class, namely, those arising from a lack of knowledge of the principles involved in the problems. This means nothing more or less than a want of thoroughness in the teaching of the higher grade arithmetic. In some instances, it is true, the pupils did not have the needed insight

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to see what the problems called for; but in others they did not know how to proceed when they knew what steps were required.

Let us take, for example, problem 4, grade 7:

If coffee sold at 33 cents a pound gives a profit of 10 per cent, what per cent of profit would there be if it were sold at 36 cents a pound?

This problem involves the application of two distinct principles in percentage. The first step lies, of course, in finding the cost, and the second in finding what per cent of 30 is 6, the intermediate step being disregarded. The average obtained on this problem in City VII being only 12.1 per cent, it might be supposed that the principles involved are too difficult for seventh-year pupils to comprehend; but this idea is proved to be erroneous by the fact that in City III, School 1, the average was as high as 96.6.

On looking over the work done upon this example in one of the class-rooms of City VII — a seventh-year class, second half — it was impossible for me to tell what impression the question actually made upon the children. Among the first ten pupils, taking the papers as they came to hand, one only did the first step correctly, and found the cost. The work of some of the others was absolutely meaningless, as the following illustrations will show:

$36 \div 33 = 10\frac{10}{11}$ — three cases.

$36 \div 100 = .36$ gain.

$.1000 \div 36 = 27\frac{7}{9}$ profit.

$100 - 36 = 74 \quad 100 - 33 = 67 \quad 74 \div 67 = .110$ cost, etc.

It might be argued that the principles of percentage involved are not taught in the seventh grade of all schools, and that the problems would have been more generally suitable for the eighth grade. But this criticism does not help out City VII, because the pupils in the eighth grade of that city made no better showing than those in the seventh on problems based upon similar principles. Problem 6, grade 8, reads:

Sold steel at $27.60 a ton, with a profit of 15 per cent, and a total profit of $184.50. What quantity was sold?

On this example the average of City VII was 5.1 per cent only, against an average of 88.5 per cent, obtained in City III, School 1.

Among the first ten pupils, selected at random, in an eighth-year class, not one understood that it was necessary, in the first place, to find the cost of a ton of steel. Four computed the profit by taking 15 per cent of the selling price; three found the number of tons sold by dividing the selling price per ton by .15; two simply made absurd combinations; and the tenth did not attempt to do the problem.

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Having found so much difficulty with the sixth problem, it is not surprising that they failed on the seventh. In that problem, as in the other, not one of the same ten pupils attempted to get at the cost. The profit was given as 20 per cent of the selling price; the loss as 10 per cent of the selling price; and their difference represented the answer.

The data having been presented, it may not be inopportune to inquire, in closing, whether our store of positive knowledge has been in any way enriched by the test. Upon this point opinions differ. A certain number of educators claim that positive knowledge does not come within the scope of pedagogy, and from their standpoint all tests must necessarily be fruitless. On the opposite side, a number of school men may be found who are not only in accord with the method, but believe that at least some of my deductions are conclusive. And, thirdly, there are members of the profession who are heartily in sympathy with the method, but think that more extended investigations are needed before any positive deductions are warranted. While I believe that these people are not altogether right, I also appreciate that they are not entirely wrong. Many of the things I have said or implied may be justly put down as "not proven." But, on the other hand, some of my data point to conclusions so positive that further investigation can neither strengthen nor weaken them. Of these, I shall here mention one only, namely: By reason of the high percentages obtained in certain schools, laboring under ordinary conditions, we must accept as a fact that nearly all children can be trained to solve any ordinary problem in arithmetic, based upon principles they have studied. Consequently, if the normal child is not reasonably proficient in that branch, as far as he has advanced in it, the fault is not his.

Naturally, my explanations as to why some schools succeed and others fail represent merely my personal interpretation of the facts and figures. Others may interpret these differently, and further investigations may upset my explanations. Rome was not built in a day. But as long as it has been positively demonstrated that the child's capacity for arithmetic is considerable, all principals and superintendents should deem it their duty to take steps to learn whether the pupils in their charge are skilled in arithmetic to the extent of their normal capacity, and, if not, to try to discover the reason therefor.*

J. M. RICE.

*The problems will be found on the following two pages.

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FOURTH YEAR.

1. If there were 4,839 class-rooms in New York City, and 47 children in each class-room, how many children would there be in the New York schools?

2. A man bought a lot of land for $1,743, and built upon it a house costing $5,482. He sold them both for $10,000. How much money did he make?

3. I have $9,786. How much more must I have in order to be able to pay for a farm worth $17,225?

4. A man bought a farm for $16,575, paying $85 an acre. How many acres were there in the farm?

5. A lady bought 4 pounds of coffee at 27 cents a pound, 16 pounds of flour at 4 cents a pound, 15 pounds of sugar at 6 cents a pound, and a basket of peaches for 95 cents. She handed the storekeeper a $10 note. How much change did she receive?

6. What will 24 quarts of cream cost at $1.20 a gallon?

7. If a boy pays $2.83 for a hundred papers, and sells them at 4 cents apiece, how much money does he make?

8. If I buy 8 dozen pencils at 37 cents a dozen, and sell them at 5 cents apiece, how much money do I make?

FIFTH YEAR.

1. A man bought a lot of land for $1,743, and built upon it a house costing $5,482. He sold them both together for $10,000. How much did he make?

2. How many feet long is a telegraph wire extending from New York to New Haven, a distance of 74 miles? There are 5,280 feet in a mile.

3. A merchant bought 15 pieces of cloth, each containing 62 yards. He sold 234 yards. How many dress patterns of 12 yards each did he have left?

4. What will 24 quarts of cream cost at $1.20 a gallon?

5. If a boy pays $2.83 for a hundred papers, and sells them at 4 cents apiece, how much does he make?

6. If I buy 8 dozen pencils at 37 cents a dozen, and sell them at 5 cents apiece, how much money do I make?

7. A flour merchant bought 1,437 barrels of flour at $7 a barrel. He sold 900 of these barrels at $9 a barrel, and the remainder at $6 a barrel. How much did he make?

8. Frank had $3.08. He spent $\frac{1}{4}$ of it for a cap, $\frac{1}{7}$ of it for a ball, and with the remainder bought a book. How much did the book cost?

SIXTH YEAR.

1. What will 24 quarts of cream cost at $1.20 a gallon?

2. If a boy pays $2.83 for a hundred papers, and sells them at 4 cents apiece, how much does he make?

3. If I buy 8 dozen pencils at 37 cents a dozen, and sell them at 5 cents apiece, how much do I make?

4. A flour merchant bought 1,437 barrels of flour at $7 a barrel. He sold 900 of these barrels at $9 a barrel, and the remainder at $6 a barrel. How much did he make?

5. If a train runs 31$\frac{1}{2}$ miles an hour, how long will it take the train to run from Buffalo to Omaha, a distance of 1,045 miles?

6. The salt water which was obtained from the bottom of a mine of rock salt contained 0.08 of its weight of pure salt. What weight of salt water was it necessary to evaporate in order to obtain 3,896 pounds of salt?

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7. If a map 10 inches wide and 16 inches long is made on a scale of 50 miles to the inch, what is the area in square miles that the map represents?

8. A gentleman gave away $\frac{1}{7}$ of the books in his library, lent $\frac{1}{8}$ of the remainder, and sold $\frac{1}{5}$ of what was left. He then had 420 books remaining. How many had he at first?

SEVENTH YEAR.

1. A farmer's wife bought 2.75 yards of table linen at $0.87 a yard and 16 yards of flannel at $0.55 a yard. She paid in butter at $0.27 a pound. How many pounds of butter was she obliged to give?

2. The salt water which was obtained from the bottom of a mine of rock salt contained 0.08 of its weight of pure salt. What weight of salt water was it necessary to evaporate in order to obtain 3,896 pounds of salt?

3. If a map 10 inches wide and 16 inches long is made on a scale of 50 miles to the inch, what is the area in square miles that the map represents?

4. If coffee sold at 33 cents a pound gives a profit of 10 per cent, what per cent of profit would there be if it were sold at 36 cents a pound?

5. A gentleman gave away $\frac{1}{7}$ of the books in his library, lent $\frac{1}{8}$ of the remainder, and sold $\frac{1}{5}$ of what was left. He then had 420 books remaining. How many had he at first?

6. Sold steel at $27.60 a ton, with a profit of 15 per cent, and a total profit of $184.50. What quantity was sold?

7. A fruit dealer bought 300 apples at the rate of 5 for a cent, and 300 at 4 for a cent. He sold them all at the rate of 8 for 5 cents. What per cent did he gain on his investment?

8. If a woman can weave 1 inch of rag carpet a yard wide in 4 minutes, how many hours will she be obliged to work in order to weave the carpet for a room 24 feet long and 24 feet wide? No deduction is to be made for waste.

EIGHTH YEAR.

1. The salt water which was obtained from the bottom of a mine of rock salt contained 0.08 of its weight of pure salt. What weight of salt water was it necessary to evaporate in order to obtain 3,896 pounds of salt?

2. If a map 10 inches wide and 16 inches long is made on a scale of 50 miles to the inch, what is the area in square miles that the map represents?

3. A gentleman gave away $\frac{1}{7}$ of the books in his library, lent $\frac{1}{8}$ of the remainder, and sold $\frac{1}{5}$ of what was left. He then had 420 books remaining. How many had he at first?

4. Gunpowder is composed of nitre 15 parts, charcoal 3 parts, and sulphur 2 parts. How much of each in 360 pounds of powder?

5. The insurance on $\frac{3}{8}$ of the value of a hotel and furniture cost $420. The rate being 70 cents on $100, what was the value of the property?

6. Sold steel at $27.60 a ton, with a profit of 15 per cent, and a total profit of $184.50. What quantity was sold?

7. A man sold 50 horses at $126 each. On one-half of them he made 20 per cent, and on the other half he lost 10 per cent. How much did he gain?

8. A fruit dealer bought 300 apples at the rate of 5 for a cent, and 300 at 4 for a cent. He sold them all at the rate of 8 for 5 cents. What per cent did he gain on his investment?

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THE PRESENT ESTIMATE OF THE VALUE OF HUMAN LIFE.

THERE are questions old as human society itself, yet ever new, inasmuch as changing conditions constantly present them in a different form. Such is the question which relates to the value of human life — the question whether life contains more joy than sorrow, more reason than meaningless complexity. The present aspect of the problem presents singular contradictions. During the nineteenth century the power and the ability of man have increased immeasurably: never before has science made such wonderful strides. Man is more thoroughly master of nature and of his own condition. At no previous time has so much been done for the advancement of education and culture, for the relief of want, and for the protection of the weak. Nor has life ever been fuller or characterized by greater activity. These conditions would seem to warrant a greater degree of inward satisfaction and of conscious pride as well as a more cheerful spirit. We know, however, that the reverse is true. A pronounced pessimism permeates mankind and notably influences those engaged in scientific labor. It would seem that the marvellous progress effected upon the domain of culture has not contributed to happiness. This matter, in view of its importance, and of its intimate relation to the life of every individual, would seem to justify a closer investigation. How is it that the present, despite its splendid achievement, is characterized by a less contented and less happy spirit than the past, to which, in all other respects, we consider ourselves superior?

In the first place, our conception of nature and of our relation to the external world has become less favorable. According to the older religious conviction, man was the centre of the universe and all nature was designed by Providence to affect his personal weal or woe. This conviction had already at earlier periods received several severe shocks, and during the eighteenth century it was supplanted in the minds of the great poets and savants by a romantic and sentimental conception. To them, nature seemed fraught with a deep inner life — it seemed to them a realm characterized by artistic harmony, noble grandeur,

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and surpassing peace, a realm which appeared to afford a secure refuge from the perturbation, the pettiness, and the unsettled conditions of life. What Rousseau expressed with fervid enthusiasm and in glowing colors also quickened the pulses of his contemporaries and of succeeding generations. All this has now completely changed. The colossal progress effected in the exact sciences, with their incisive analyses and unbroken chain of causality, was very unfavorable to such an artistic view of nature. Philosophers also, such as Schopenhauer, and naturalists, such as Darwin, have revealed phenomena directly opposed to this view. The peacefulness of nature has fled, and everywhere throughout her domain we behold a severe conflict in which the individual and his fate count as nothing — a conflict which, oblivious to the weal or woe of the personal unit, relentlessly and with the mandate of iron necessity pursues its goal, the nature of which is enveloped in mystery and obscurity. The doctrine of evolution has inseparably linked the individual with this conception of nature as a soulless organism, from which man proceeds, and to whose dicta he is absolutely subject. Thus man can have no especial significance for himself alone, nor can he form an independent circle. If, therefore, he is but a fragment of nature, he must necessarily sink into insignificance when viewed in relation to the immeasurable universe. Is not such an attitude of utter indifference calculated to exert a most oppressive influence? Must it not cripple the initiative and the courage to undertake great enterprises?

Yet the doubts and cares arising from this condition would be supportable were the inner life itself opulent and satisfactory, affording opportunity for secure and harmonious development. But this consummation has also become doubtful. Our sphere of activity has become immensely enlarged, but it is inseparably interlinked with extremely complicated conditions. We are dependent upon many circumstances which we cannot control nor even survey. This fact alone tends to augment our sense of insecurity and restlessness. Then, too, life has acquired a more rapid pace: the situations and duties are changing incessantly and with ever-increasing rapidity, and every moment is fraught with new demands. Thus do we hasten on from one moment to another and never arrive at full fruition. Nor do we manage to obtain a calm survey or a satisfactory enjoyment of our individual needs. This haste, with its feverish strenuousness, operates to make us ever more sensitive, irritable, and nervous, while the nervous condition thus engendered is in its turn conducive to still greater hurry and restlessness. Thus, external and internal conditions combine to make life ever more fleeting, excit-

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ing, and unsatisfactory. Amid these conditions even our successes are no longer a source of joy to us; petty annoyances serve to vex us; while actual failures completely disturb our equanimity and become a source of perpetual worry.

What further intensifies this psychological condition is the fact that modern man, in a far higher degree than his predecessors, is prone to compare his individual fate and successes with those of his fellow-men. In no respect does he wish to be outdone, and his constant aim is to outstrip his competitors; and this lack of self-limitation contributes in no slight degree to make life restless and discontented. Thus, many and various circumstances combine to make us conscious of the distressing, rather than the favorable, side of life — its dark rather than its bright aspects. Thus we perceive that the brilliant results of our cultural development cannot be regarded also as contributions to our happiness.

This entire question might be ignored were man conscious to-day of an indestructible power and efficiency within himself, so that the inward, spiritual content of life would in itself be rich. In this way did the stronger individuals among the nations of later antiquity seek happiness; setting all external joys aside as irrelevant and dangerous, and thus manfully converting life into moral deed, which might secure to man an inward grandeur transcending that of the material world. As regards the final and decisive point, also, modern man is in a position of insecurity and utterly without self-reliance. He is in no wise so strongly convinced of the operations of a noble, grand, and divine element within himself as were his forefathers, notably during the eighteenth century. The men of that epoch, despite all dissatisfaction with political and social conditions, were animated by a strong faith in the greatness and kindness of humanity, and drew therefrom good cheer and encouragement to perform the tasks allotted them. Our development during the nineteenth century has contributed to shake this belief materially. The powerful impulse of life and the incessant conflict between all its creatures, which appear to us as the prominent features of nature as we picture it, have now also been transferred to the domain of human activity. Powerful passions have become awakened; contending interests clash more violently; the conflicts have become fiercer. Externally, the contact between men has become much closer than ever before. As regards their inner relation, however, they are farther removed and estranged from one another. Throughout all the ramifications of life schisms now appear, and parties are everywhere developed which are at constant feud.

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Individuals battle against individuals; one branch of industry is at strife with another; one class of the community is arrayed against the other; and nations contend in fierce rivalry. All departments of activity are involved in this struggle — the political and the economic, as well as the religious and the artistic. Everywhere we behold hostile camps and passionate and embittered partisan hosts. Labor is torn by dissensions, and a mutual understanding is constantly becoming more difficult. As a result, all the deplorable features of party spirit are entering ever more deeply into human relations as a whole; for marked injustice is ever inseparable from partisanship, which judges its adherents and its opponents by different standards, and which excuses, aye, defends everything of a questionable nature within its own ranks, while subjecting it to an evil interpretation if confined to the opposite side. Indeed, the danger lies near that the increasing asperity of the conflict will tend to an ever greater employment of questionable measures, and that brutal force, and, in an even larger measure, craft and cunning, will ever be brought more prominently to the front as factors in the strife. Amid the conditions of such a conflict the spiritual bond between man and man naturally becomes weaker and weaker.

In addition to this transformation of life into strife and conflict, the contradictory elements in our present human consciousness also serve to weaken the moral powers. Modern culture, notably in its intellectual evolution, has considerably shattered the old ideals and convictions; and even where they externally maintain their influence, their former power and certainty have been to a great extent lost. On the other hand, the new ideas which are springing up have not yet become sufficiently clear, stable, and profound to permit of their acceptance as fundamental doctrines. There is, consequently, a palpable absence to-day of distinct and common aims which would tend to weld humanity into a unit and which would afford sufficient resistance to the egotism of the individual. Moreover, the conditions here described are prone to engender deception; inasmuch as many doctrines are ostensibly maintained and openly lauded, although they have no longer a foundation in the inner consciousness of the individual. Confusion is also caused by the mental absorption of many contrasting and conflicting elements which engender a dire perplexity in the mind of the individual. In view of these facts, it is but natural that we should have so much ill-digested knowledge, so much weakness and superficial gloss. How can firm convictions and strength of character be evolved amid conditions which afford no inward support whatever to the individual? With this weaken-

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ing of the moral fibre all efforts toward bringing about a rational view of life are rendered nugatory.

Whoever carefully ponders on these questions will readily understand why pessimistic views of life predominate to-day to so great an extent, and why, despite our greatly increased activity, the joy in existence is felt in a constantly lessening degree. We perceive human existence as a colorless fragment of a soulless universe. Within the immediate circle of man's activity, despite the inexpressible toil and trouble involved, we behold no genuine happiness. Everywhere uncertainty prevails as to the reliability of our moral standards; everywhere the impulses of life are becoming tenser and the struggles keener; while scepticism as to our power of moral initiative is growing apace. Is it surprising that amid such conditions life is no longer regarded as a boon?

It is obvious that we are here discussing no evanescent moods which may be readily dissipated or converted into the other extreme. The conditions here involved are deeply rooted in an actuality which no amount of reasoning can efface. Nevertheless, it may be possible, from the contemplative standpoint of philosophy, to demonstrate that the existing situation need not be regarded as an absolute decree of fate to which we must willingly resign ourselves, and that an opposing influence may be exerted. Perhaps there are in our existence greater possibilities of which we may avail ourselves; and from this point of view the outlook may appear more favorable than hitherto revealed. It may be that it devolves upon us to widen our intellectual horizon and to resist the conditions that weigh upon us.

Firstly, philosophy may assert that the picture of our moral condition as drawn in the preceding paragraphs is decidedly one-sided and that it does not give expression to all the possibilities of our nature. While it is true that modern life emphasizes the egotistical features of man, it does not by any means follow that it makes a complete egotist of him. It may, on the contrary, exert a very ennobling influence. The great cultural development of modern times, with its scientific, practical, and technical achievements, demands the exercise of infinite labor; and this labor could not be performed without great unselfishness of purpose, without self-renunciation and personal sacrifices. But for these, how would it have been possible, for example, to bring about that marvellous progress in our system of education which has changed the entire aspect of society? To be sure, the laborer is worthy of his hire; and it may be admitted that in work of every description personal interests

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are legitimately involved. But these interests do not give the animus to work, nor are they in themselves creative. Egotism, which inclines man to personal well-being and to the consideration of self, is never productive. It evolves nothing great or noble; for it is not concerned in the cause in which it is engaged. Nor can the spirit of egotism open new paths to enterprise; for these require pioneers willing to undergo hardships and to bring sacrifices. Labor can only prosper when man is dominated by the great cause itself, to the demands and dictates of which he is willing to conform. Man must become so closely linked to the cause in which he is engaged that in the furtherance of it he will set aside all personal interests. Private gain should be subservient to the attainment of the goal in view. In this way, work liberates man from his petty *ego*, enriches his existence, and endows him with firmness of character. No century has been characterized by greater zealousness and higher achievement in the field of labor than that which we have just completed. Hence it follows that its record of unselfish devotion to great issues must be a long and brilliant one. Though examples of this truth may not be predominant and may be infrequently cited, the fact as stated is nevertheless incontrovertible, and compels us to think better of man than does the before-mentioned pessimistic view.

Another most important agent for good is the power of love. Like the element of unselfish labor, it also achieves the wonderful end of eliminating the *ego*. Here, however, it is not the cause in which we labor, but humankind — the individual or the race — which absorbs our personality. Where love exercises its potent spell, a communion of soul is established which enables man cheerfully to endure the severest hardships and to bring the greatest sacrifices, and which endues his life with sterling value and invests him with a higher and nobler self. So long as human nature is capable of this, it is not wholly under the sway of egotism. Now, as regards substantial tokens of love and of humanity, the nineteenth century may unhesitatingly challenge comparison with former eras. For at what time has the disposition ever been greater to protect the weak, to uplift the downtrodden, to alleviate want, and to provide for all those who, in the words of Fichte, "bear the image of man"? This spirit of love manifests itself, first and foremost, in tangible works. These, it is true, may frequently reveal traces of external and selfish motives; and a species of Pharisaism may even be evolved in this way. But the colossal achievements in this direction would nevermore have been recorded, had their promoters not been dominated by a certain nobility of sentiment and true devotion; and

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this nobility of sentiment affords conclusive evidence of a higher standard of human conduct than pessimism is willing to concede.

With such an acknowledgment of a nobler spiritual faculty in man the problem of happiness assumes a different aspect. We acquire the conviction that the momentary feeling or mood is not a decisive factor of happiness, which we now learn to dissociate from the conception of mere personal gratification. All true activity elevates us above mere sensation or fleeting emotion; and the more we are absorbed in our work, the less we are apt to dwell upon our personal condition. Indeed, we are probably happiest when our whole being becomes absolutely merged in our task. In this we may find so great a felicity that all other joys dwindle in comparison. The less we reflect upon our happiness, the happier we are; and true activity is ever followed by a peaceful, satisfying, and elevating sense of power. The nineteenth century has been prolific of work and of deeds of love; consequently, it has been fraught with greater happiness than we are probably aware of. What is missing is the faculty to avail ourselves cheerfully of the blessings of activity and to obtain the full and complete realization of its fundamental value. Why should this be impossible? Why should we not thoroughly adopt this possession as a boon and enjoy it to the fullest extent?

As the appreciation of this fact materially changes the aspect of our personal condition, so it also tends to alter our conception of the world and of our relation to it. A new mode of life has been introduced; a mastery of the impulse of self-preservation has been effected; a realm of labor and of love has been created; and with these a new form of happiness has dawned, and the consciousness of a new phase of actuality begins to assert itself. True, science has linked man more closely to nature, and it is no longer possible to treat him as a subject apart. But the very conviction of so close a relation between man and the universe, and the consciousness that there is a higher form of actuality than nature as generally conceived, namely, a world of love and of labor — these considerations alone demonstrate the infinite resources of life. How could intellectual life emanate from nature, if nature were something lifeless and spiritless? Must the element which manifests itself in one form not also exist as part of the whole? If we see it before us as a result, must it not also operate elsewhere as a cause and a principle? And if the element which operates in man and manifests its power through him is capable of elevating his conception of the world, surely that which man aspires to and seeks to realize must also be fraught with deep meaning and fulfil a high purpose in the general design. It is

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necessary only to follow the idea of development and of the interrelation of things to its logical conclusion, instead of remaining content half way, to perceive that this idea tends to expand and ennoble our conception of life instead of making it cramped and narrow. True, even the admission that the circle of human existence moves within, and not beside, evolution in its widest sense does not eliminate various questions and problems that invite our thought. The veil which conceals the destiny of man will not be lifted. But, after all, is this indispensable to true faith in our mission and the cheerful performance thereof? It suffices to know that our being and striving stand in an infinite relationship to the cosmos as a whole, to the progressive evolution to which we are contributors. The new science does not assume a negative, but an affirmative, attitude toward this statement.

A broad view of our present human existence therefore reveals an entirely different condition from that shown by the spirit of pessimism — a spirit which exerts so potent an influence upon our contemporaries. The existence of the facts which pessimism sets forth in support of its views is not questioned: they remain, and deserve consideration. In reality, however, they constitute but one side of human life, which is fraught with a deeper meaning and involves far more at present than many of us become conscious of. The fact that this deeper meaning is too frequently relegated to the background and that the possibilities of the spiritual life are not sufficiently developed may be explained from the general state of modern culture. Great revolutions have been effected in the last centuries; life is directed into new channels; old doctrines are beginning to totter; and new ideas demand recognition. An equilibrium, however, has not yet been established. The law of compensation has not yet exercised its power to the fullest extent. Above all, there is still an absence of that energetic concentration which should convert man into a complete and harmonious organic entity, as opposed to the variety and multiplicity without — an entity capable of sifting, combining, and clarifying all the innumerable impressions presented by the heterogeneous influence of the external world. An intellectual activity capable of rising superior to all the blows of fate is also lacking. It may, therefore, be said that the centrifugal forces are greater than the centripetal. Labor, with its enormous ramifications, is more powerful than the spiritual force within ourselves. Herein we must seek the answer to the question whether life contains more reason than meaningless complexity and whether true happiness can exist. Life, as conferred upon us, is not invested with a fixed and unchangeable value. It

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depends upon ourselves what value we are willing to give it. The more man seeks to concentrate his life, the more he seeks to develop a victorious intellectual activity productive of ever higher spiritual strength, the greater will be his ability to confront the complex phenomena of life with cheerfulness and courage. He will then readily understand the words of Vauvenargues: "Le monde est, ce qu'il doit être pour un être actif, plein d'obstacles" (The world is, what it ought to be to an active being, full of obstacles). In our day also happiness and confidence in the rational purpose of nature may be obtained by zealously and mightily developing the intellectual life, so that man may face all the multifarious phenomena of life as a unit endowed with strength of character and the power of conviction. Never were there greater possibilities in this direction than to-day; and it devolves upon man to avail himself of them, to the end that he may find good cheer and courage within himself and power to become victorious over the petty and depressing impressions which a first view of prevailing conditions produces. He will then tread the upward path ever sought by powerful and youthful natures, be they nations or individuals. RUDOLF EUCKEN.

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THE SCOPE OF A PERMANENT TARIFF COMMISSION.

THE recent revival of interest in the tariff is one of the curious phenomena of American politics. For a period of twelve years, beginning in 1884, this question was easily the overshadowing issue. The propaganda for free trade reached its high-water mark in 1892, when it swept Grover Cleveland into the Presidency for a second term on the crest of a tidal wave. This wave suddenly receded after the enactment of the Wilson Bill, and the Congressional elections of 1894 clearly indicated that the cry for tariff reform had lost its charm. With the triumph of the Republican party in 1896, and with the passage of the Dingley Bill at the special session early in the summer of the following year, the whole question of the tariff swiftly dropped out of sight. The prediction was freely made at the time that the policy of protection was safely entrenched for at least a generation, and that the newly enacted tariff would not be molested for a decade.

There are, indeed, few if any signs that the principle of protection itself is in peril; but it is symptomatic of the entire absence of electoral repose that the decade is not half over before the cry for another revision becomes undeniably popular in certain sections. This should occasion no surprise when it is remembered that we had three revisions during the period from 1890 to 1897. The average life of the various Acts passed since the adoption of the Constitution has not exceeded seven years, and it is altogether likely that the Dingley Act will be well within the shadow of the time-limit before it can be repealed, even under favoring conditions.

The restoration to something like its old-time prominence of the tariff, displaced temporarily by the cry for free silver, and by issues growing out of the Spanish-American war, has been accompanied by the suggestion of the appointment of a permanent tariff commission. This idea is not exactly novel, as the pages of the Congressional Record abundantly testify, but it has now the distinct advantage of being an executive recommendation, as witness the speeches of the President during his Western trip, and his latest annual message. This action

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focussed public attention upon the plan, and it was very clear from the crop of interviews industriously collected at the time by various newspapers that the business men of the country, as a unit, view it with enthusiastic approval. The resolutions of various Chambers of Commerce, which have been forwarded to Washington since the opening of Congress, show that the interest in this matter is sustained and real. There is a little vagueness, perhaps, as to the scope of the proposed measure, but there is no doubt of its popularity.

The reason for this attitude is not far to seek. It has become the merest commonplace to say that capital is proverbially sensitive. The widespread paralysis and almost entire cessation of business when confronted with the uncertainties of revision were sufficiently demonstrated by the experiences of 1890, 1894, and 1897. Readjustment, even when the changes which precede it are not violent, is always accompanied with something of a wrench; and the apprehension of a renewed period of uncertainty and distress after a little interval inspires dread and terror in industrial circles. Manufacturers are timid about extending their operations beyond the confines of the immediate present, and the one thing from which they devoutly pray to be delivered is tariff "tinkering" by Congress. It is, therefore, with the idea expressed in one form of words or another that a permanent commission will somehow "take the tariff out of politics" that the average business man hails the suggestion with delight. To him it comes as a panacea holding out permanent relief.

In view of the widespread interest evinced in this movement, it becomes pertinent to inquire just what a permanent commission can reasonably expect to accomplish. One excellent man of affairs, when approached, expressed the opinion that the greatest care should be exercised to keep the tariff free from politics, and that no political strife should influence the formulation of its provisions. He was heartily in favor of the commission doing the work which Congress with its manifold duties and diverse feelings cannot do acceptably. This view is typical and perfectly natural from a business standpoint. To treat the tariff solely as a business matter seems to be the obvious and sensible thing to do. Protection and free trade belong to the domain of economics without a doubt, but unfortunately they have been treated as political issues almost from the adoption of the Constitution. Hamilton's report on manufactures, as Secretary of the Treasury in 1790, foreshadowed clearly the political struggle which was to come; and Gallatin's free-trade memorial of 1832, really a protest against the

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existing tariff, showed that the issue was then clearly defined, and, indeed, that the struggle had been on in earnest for some years. From the day of the now historical free-trade report of Robert J. Walker in 1845 down to the present time, the Democratic party on the one side, and the Whig and Republican parties on the other, have divided sharply — though now and then the question has been obscured as an issue — on the tariff. In some campaigns of recent years this alignment has marked the only practical distinction between the parties. It may be that protection has come to stay, though in the light of reiterated declarations against it in party platforms for an unbroken period of over half a century, and in view of the fact that the only Democratic President since Buchanan has been twice elected on this issue, it is exceedingly doubtful if the Democratic party can be persuaded to accept the protective system as a finality — only, in place of the old confident slogan of a "tariff for revenue only" there is likely to be substituted for some time to come the more cautious demand for a "tariff reduction."

If political strife is to play no part whatever in the formulation of the tariff, then the work must be performed not by Congress but a commission exercising such powers as may be constitutionally delegated to it. Changes in the schedules would be along the line of either protection or free trade. Manifestly such a body would be "permanent" just as long as the party which created it was in power. Whether non-partisan or bi-partisan would not mend matters very much, if at all. A protectionist commission would be reasonably sure to have Democratic representation from the Randall school, not that of Grover Cleveland; for it is only upon the theory that a bureau of trained experts is to work harmoniously and as a unit that the plan offers, in the long run, any special advantage. A Republican administration would of course insist upon a thorough-going protectionist commission; and, unless it turned its back upon all its traditions, a Democratic administration would be satisfied with nothing less than a commission hostile to the protective theory.

It becomes plain at this point why we could not with entire success transplant to American soil the old-world system. A permanent commission with power to adjust and modify schedules as the expenses of the Government vary, or to make recommendations suggested by constantly shifting needs and conditions, with the understanding that Congress would be sure to adopt them, is possible only in a country which, like England and Germany, adheres to a definite and well-defined policy, though ministries and imperial chancellors fall. England has

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made no radical change in her revenue system since the days of the Corn Laws and Sir Robert Peel. There is continuity here which is impossible under our form of government. During the same period, while in the main following the banner of protection, we have, obedient to the public mandate, executed several countermarches.

Even if a body of experts, clothed with powers so sweeping as to make it practically independent of Congress and the Executive, were not contrary to the genius of our institutions, there is still another insuperable obstacle to its creation. Congress, always jealous of its prerogatives, would not abdicate any of its law-making functions. Mr. S. N. D. North, in the course of an exceedingly able and persuasive argument for a permanent bureau, recently published in the bulletin of the National Association of Wool Manufacturers, shows this clearly, and points out the limitations within which a commission must necessarily operate. The constitutional powers of Congress cannot, of course, be delegated; and it is highly improbable that either branch would ever consent to a law enabling a body of experts to impose rates, retaliatory or otherwise, within a maximum and minimum limit. Political and sectional environment, if nothing else, would prove too powerful. The average member of Congress looks upon himself as a watchman on the battlements to guard the industries of his particular locality, and he would object to any assignment of his trusteeship. A Western Senator voiced this plainly when he said, during the progress of the debate upon the Dingley Bill: "We cannot leave it to any other body than Congress to prepare and enact tariff laws. It is a delicate and difficult duty." A bill introduced providing for a commission designed primarily to encroach or impinge upon the prerogatives of Congress and ultimately virtually to supplant it, even if it were constitutional, would never get beyond the Finance Committee of the Senate, which Senator Vest, himself a member of it, was fond of alluding to as the "parliamentary tomb of the Capulets." Such a plan may as well be eliminated. It has only an academic interest.

If anything further were needed to make perfectly clear the settled policy of Congress, it was furnished at the recent short session. The only response to the Executive recommendations was a concurrent resolution offered by Mr. Tawney, of Minnesota, a member of the Ways and Means Committee of the House. It provided for a joint committee consisting of six Senators and eleven Representatives elected to the Fifty-Eighth Congress, who were directed to investigate the present condition of domestic and foreign production, and to report to the next

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Congress the necessity for any modification of duties. The resolution died in the Committee on Rules.

Nevertheless, a commission to tabulate data for the information of Congress, in short, to act as an auxiliary to it in framing revenue legislation, will ultimately be established. The reasons for this are becoming more and more urgent. The number of articles provided for in the tariff, either as dutiable or free, is already multitudinous, and will increase with succeeding Acts as specialization goes on. The work of harmonizing antagonistic interests and of equalizing schedules which are related and inter-dependent is sufficiently stupendous already, and it will be increasingly difficult in the future. Each revision is now preceded by the taking of a mass of *ex parte* testimony by Congressional Committees. This is cumbersome and unsatisfactory. The testimony, for the most part, is given by witnesses whose pockets are either favorably or disastrously affected by proposed changes. As might be expected, their statements are as conflicting as their interests, and are often of doubtful value as guides in legislation. To reconcile this undigested mass of evidence and to appraise it at its correct value should be the work of experts trained to scientific investigation of imports and their relation to revenue and prices. It was this that the President apparently had in mind in his Logansport speech, when he suggested a non-partisan inquiry into the "effect found to proceed from a rate of duty on a given article; its effect, if any, as regards the creation of a substantial monopoly; its effect on domestic prices, upon the revenue of the Government, upon importations from abroad, upon home production, and upon consumption."

Such a commission, in order to get the right perspective, would necessarily concern itself with industrial and revenue conditions abroad as well as at home. The striking need of just such information was recently shown in the framing of the new tariff for China, which was participated in by the treaty powers. It is safe to say that in no other direction has the tide of exports flowed so strongly during the last decade as toward the Orient. In 1889 our exports to China amounted to $2,791,128; in 1900, they increased to $15,213,285. We have some interests worth looking after in the East, and the President sent out a commissioner to look after them. When he got to Shanghai, he found that the representatives of Great Britain had a tariff in their pockets which had been drafted in London and Manchester, with a precise knowledge of English commerce. Our commissioner was without similar exact information as to American needs, except such as was

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hurriedly collected and forwarded to him by chambers of commerce in a few of the large cities. That we fared so well in the tariff which went into operation on October 31 is due to the chance that our representative, through his participation in the framing of two tariff bills at home, had uncommon equipment for his task.

The success or failure of a permanent tariff commission would depend largely upon its personnel. In the various measures which have been before Congress providing for a permanent bureau, much diversity of opinion as to its make-up has been developed. The late Attorney-General Garland, when he was in the Senate, advocated a mixed commission to consist of Members of Congress and persons in private station. For several years, beginning in 1878, he actively pressed his project. But the trend of debate was not encouraging; and when the temporary Oliver Commission was finally created in 1882, it was made up entirely of members taken from private station. Senator Plumb, of Kansas, who was a pioneer in the movement to establish a permanent commission, sought to attach to the McKinley Bill when it was passed a section creating a customs commission of "five disinterested persons" who should continue in office for six years. Similar bills drawn on the lines of the Plumb amendment, with here and there modifications, have been repeatedly before Congress since, but have always been indifferently viewed either in one branch or the other. It is clear that a commission made up in part of Members of Congress, with their uncertain official tenures, could not, in addition to their regular duties, accomplish the best results. The same objection would lie with diminished force against a bureau of untrained civilians. The work to be performed is highly technical, and should be under the direction of men with special qualifications. It was apparently with this idea in mind that Senator Spooner, of Wisconsin, at the time of the passage of the Dingley Act, proposed an amendment requiring the Secretary of the Treasury to designate three United States general appraisers to perform virtually the work of a tariff commission. Reports were to be made to the Secretary of the Treasury, who in turn should transmit them in December of each year to Congress, with his recommendations.

This suggestion has the attraction of merit, and is worthy of serious consideration. The board of general appraisers is a permanent tribunal, created by the Customs Administrative Act of June 10, 1890, consisting of nine members, not more than five of whom belong to any one political party. This board has jurisdiction on appeal from the decisions of collectors on all questions of law and fact involved in the classifica-

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tion and appraisement of imported merchandise. If there is no controversy over the classification of an article involving the rate of duty to be assessed, there is likely to be a dispute over the appraised value of goods paying an *ad valorem* duty. Through daily contact with importers of practically every conceivable article coming through the custom-house, general appraisers acquire inevitably an intimate knowledge of the mazes and intricacies of revenue matters. They explore the dark corners of every tariff Act. This is so generally recognized that framers of measures since 1890, in both House and Senate, have freely drafted into service the experts on the board without regard to their political affiliations. It is certain that nobody summoned from private life could possibly be so well equipped as a general appraiser to analyze the various schedules and point out the defects and inequalities which need correction. Granting that a specialist in a particular department may now and then have a deeper insight into the effect of rates touching his own department, it is nevertheless true that general appraisers have the superior advantage which comes from a comprehensive and unbiassed survey of the whole field. Schedules which have their competent supervision will be well balanced and preserve the equilibrium of the entire Act. But the regular duties of general appraisers are exacting. They could not do all the work of a commission, as Senator Spooner apparently contemplated, and they should be supplemented by colleagues of proved equipment. The reports and findings of a body organized in this way would carry the weight of competent authority of the highest character; and there would be annually at the disposal of Congress a well-digested mass of trustworthy data which would enable that body to deal most effectively with situations shifting and fluctuating from year to year.

Thus far our revenue machinery has run along in a haphazard sort of way; coming to a sudden standstill now and then to repair some real or fancied defect, and then, after a season of overhauling, starting up again with a series of jerks and plunges which threaten to strain the mechanism to the breaking-point. For over a century we have stumbled and blundered along blindly. Of late years especially, the mute protest of our trade statistics against this short-sighted policy has been growing increasingly impressive. In 1902 we collected $254,456,927 duties on imported merchandise. For the years 1901, 1900, and 1899, the figures were $232,641,500, $228,364,556, and $200,873,429, respectively. Since 1891 there has been a downward tendency in the importation of manufactured or partially manufactured articles, while

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in the importation of articles in a crude condition there has been a rapid increase. The explanation of this is found not alone in our increasing ability to supply our own needs, but also in the very rapid growth of our exportation of manufactures. Since 1899 these have averaged over $400,000,000 per annum, which, according to the figures prepared by the bureau of statistics for the Treasury Department, is more than twice as much as in any year prior to 1896, four times as much as in any year prior to 1877, and ten times as much as in any year prior to 1867. Clearly, we are now out on the firing line in the world's battle for commercial supremacy, and a systematic investigation of the world's trade movements has become of the last importance.

But there must be a clear conception of the work to be undertaken if it is to enlist Congressional support, and succeed. Twenty years ago, in advocating the temporary commissioners who prepared a tariff bill which Congress promptly proceeded to mutilate beyond recognition, the late Senator Morrill said: "They are expected to gather and report facts. We do not ask for mere opinions, the screed of hacks, nor for arguments." The Congressional temper has not changed radically since 1883, and a similar fate would — certainly for some years to come — overwhelm a bill spread before Congress, for formal adoption, by any body of experts that could be collected. But a tariff commission to aid wise legislation would inaugurate a refreshing contrast to our present methods.

ALBERT H. WASHBURN.

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A RAMBLING DISCOURSE ON SUBMARINE NAVIGATION.

To the Editor of THE FORUM.

SIR:—Will you kindly pardon an old contributor, who, in July and December, 1890, wrote requested articles for your magazine on gunpowder and armor, if he makes a belated trespass on your valuable pages in regard to a subject which has since that time become quite as important as either of them?

The question of submarine navigation has become so prominent in France that one living here can scarcely pick up a daily paper without finding some reference to the matter. When the notices are extensive, the articles are always in the same strain: *i.e.*, France has at length found the one remedy that will render her harbors impervious, and will give her fleets the freedom of the seas, should war ever occur again with a maritime power. It is an historical fact that from time immemorial the policy of England has been, when war has broken out, to seal up the French ports by an immediate blockade; thus paralyzing the fleets within and rendering the capture of those without absolutely certain. Nobody disputes this statement; and one has only to read the dreadful history of the navy during the French Revolution, by Admiral Jaurien de la Gravière, to realize how, since nearly all the officers were royalists and obliged to flee, the once splendid navy, the work of that intellectual giant Colbert, minister of Louis XIV, was reduced to a mass of floating anarchy. How the captain sat at one end of the common mess table and the cook at the other. How all the officers were changed every day, week, or month, whenever in fact the crew chose to take a vote. How it was that, with such materials as this, the Republic, the Consulate, and Napoleon, under a practically permanent blockade, strove vainly to create a navy, which, through lack of sea drill, could only meet its fate at the Nile and Trafalgar. It is a recorded fact that when a gale drove the blockade off shore and the French vessels ventured to sea for exercise, the men were frequently so seasick that they could neither go aloft to handle the canvas nor work the guns on deck. Our able author Capt. Mahan has written eloquently about the influence of

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sea power on history, and has drawn flattering conclusions therefrom to the glory of England. He is quite right, and it is no discredit to the English navy to say that they fairly earned all that they acquired. But there is a French David that has now come to interview Goliath, and that David is the submarine boat.

The first harbinger of the solution of the blockade question was the surface torpedo-boat; and although not the originator of the idea, France spent millions on it, and all other nations were bound to follow. It is a wonderful invention and has been astonishingly developed, but its limits have been practically reached. It carries a formidable weapon and has tremendous speed; but it has no more defensive power than a soap bubble and must always attack at night. To put armor on it would sink it; and naturally the next logical step was to go under water and secure both impenetrability and invisibility. This has been done; and we now have the submarine boat, which possesses the same weapon as the surface boat, and is less likely to be destroyed, although it makes its attack in the daytime. It is true that at present we do not get nearly the speed of the surface boat, and are hampered with the difficulty of seeing under water; but it has been found that a different system of tactics is possible, as will be explained later on, and we are only beginning as yet to understand how much wider is its range of application than one would have at first supposed.

The subject of submarine boats is now commencing to attract the general attention of the world. Books are being written in France and in England, and I wish to rectify the history that is being created by these books before it is too late. Herodotus is known as the father of history. The more we know about him, the more reputable the old gentleman appears to have been: likewise Plutarch, and yet the latter tells a fish-story about Antony and Cleopatra, to the effect that they were frequently angling in the Nile; and, wishing to have the better luck Antony employed a diver to attach fish to his line, much to the annoyance of Cleopatra, until one day, discovering his secret, she bribed the diver to hook a salt fish to Antony's line, greatly to his confusion. This is one of the earliest examples of submarine navigation; though Quintius Curtius and Roger Bacon tell more extraordinary stories than this about what Alexander did at the siege of Tyre.

However, though diving-bells were known as early as 1540, there is no good proof that anyone really did move about under water in a boat until we come down to David Bushnell, who between 1771 and 1775 constructed a boat with which an army sergeant named Ezra Lee went

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under the "Eagle," an English 64-gun ship, lying off Governor's Island, in New York harbor. It was intended to attach a torpedo, but the operation failed. David Bushnell is justly entitled to the distinction of being called the father of submarine warfare. His boat was, according to the descriptions, shaped like a turtle floating on its tail, the operator looking out through windows in the head and propelling the boat by means of a screw; but Bushnell never left any drawings of his boat, and the descriptions are very difficult to follow. It is at this point that I wish to correct history.

There is a Persian proverb that no one likes to see another man higher than himself unless it be upon a gibbet, and I confess that this is the way I sometimes feel with regard to these latter-day scribes. In 1875, when I was instructor in submarine warfare at the United States Torpedo Station at Newport, Rhode Island, I found it necessary, in order to simplify teaching, to make a drawing of Bushnell's boat, which would correspond to his descriptions. It was not an easy task, but I succeeded to such a degree that J. P. Holland, the most noted of submarine-boat inventors, told me that a boat constructed after my drawings would work. This lecture and the drawings were published by the Bureau of Ordnance of the Navy Department, and the drawings afterward by the Army Engineer Corps at Willets Point. The drawings were also reproduced in an article which I wrote on submarine navigation in Johnson's Encyclopedia in 1885. Time has gone on. I have totally disappeared as an authority on submarine boats, as has also my plainly written statement that my sketches were imaginary: but my drawings remain to illustrate all the descriptions one sees in books of the present day where Bushnell's boat is mentioned. Such is history.

It is true that I claim to be the Herodotus of submarine navigation, and it is with some mortification that I feel compelled to blow my own horn, even at the risk of discord to the rest of the band; but if I remember correctly, there is a Biblical precedent in the matter of one Balaam who was obliged to follow the same course in order to obtain a hearing in consequence of the sudden development of oratorical powers on the part of a certain long-eared literary acquaintance of his with whom he had not previously been on speaking terms. Balaam thus put himself on the right track as a prophet; and it gives me much pleasure to say that the United States Navy Department was the first in the world to establish a course of lectures on submarine boats, mines, movable torpedoes, etc., for the instruction of its officers, and I was the first lecturer. I have always been an enthusiastic believer in the future of submarine

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navigation, and I thought at that remote day that I had a goodly number of followers; but judging from what I read in the American papers in these modern times, it grieves me to see that most of my disciples have wandered far from the true faith. Let us, however, remember the story of the poor prodigal son, and trust that like him they too will return when their appetite for husks is succeeded by the usual indigestion. And let us hope also that out of the garnered riches of my riper years, as hereinafter set forth, they may gather wisdom and profit.

"Why should the rich despise the poor,
Why should the poor repine?"

France is the only nation except Russia whose government has ever spent any considerable sums in the development of naval novelties; and thus it is that we are indebted to her for practically everything that we now possess. She it was who in the old days of canvas built the best models for fast sailing ships, with the tumble-home sides to prevent boarding and to secure stiffness under sail. She it was who boldly introduced armor, rifled guns, metal hulls, ram bows, tubular boilers, electricity, etc., etc. She it is now who is to the fore in submarine torpedo-boats. She has now 68 submarines, built and building, and on these she must be spending from seven to eight million dollars, and probably more. At least one-quarter of this will be sunk in experiments, many of them apparently quite useless; and yet experiments seem to be the inevitable accompaniment of the development of all new mechanical inventions. So well is this recognized among company promoters in the United States that wise ones will not invest in the most promising idea without having plenty of money behind them with which to make it practical. Inventors are almost invariably poor men of one idea; and it is by sticking to this one thought and warming themselves by the fire of their own imagination that they sometimes succeed. Who ever heard of a rich inventor except Vanderbilt and Astor? They seem to be born poor on purpose.

I believe it was Joseph Parton who once said that knowledge is not power, it is weakness, and the saying is quite true as applied to inventions. The all-round, well-educated, and well-informed man is almost sure to be a conservative. If there is one reason out of a hundred why an invention should eventually succeed, that is the only one that the inventor will see, while the well-informed man will see all the ninety-nine objections beside. But to every objection, if once pointed out to him, the inventor will sooner or later find a remedy which

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the objector had never thought of, and if necessary he will devise ninety-nine new inventions in order to make the first one work. This is where the money is sunk. There are three things necessary to make an invention succeed. First, the kernel idea must be sound. Second, the world must be ripe for its appearance. Third, there must be plenty of money behind it. The wheel of progress does not revolve of its own accord: rival inventors will put obstacles before it, conservative individuals will apply brakes behind it, but gold will finally make it move.

The world is apparently now ripe for submarine boats; and, so far as I am informed, Germany is the only European nation where the constituted authorities of the Government are opposed to them. It is not a question as to whether the boat has reached a practical stage or not. They are simply of the opinion that the boats are not needed in the defence of their inhospitable shores, and it must be admitted that there is a certain amount of foundation for this opinion. In 1870 they rendered their ports impenetrable to the French fleet by simply removing the channel buoys, and to-day they have in addition what is probably the best organized surface torpedo-boat system in the world. Besides this they are the happy possessors of the five greatest natural enemies of the submarine boat: (1st) Shallow water; (2d) muddy water; (3d) strong tides; (4th) at times quantities of sea weed; (5th) sand bars and muddy bottom. But the German position is not invulnerable. When the Emperor with restless courage stretched forth his hand to seize the sceptre of the seas, he burst the chrysalis in which his country was entombed and voluntarily removed the boundaries of her defence to remoter regions. With her own war and merchant fleets on every ocean, Germany no longer dare close her own ports by removing the channel buoys. The Kiel canal, between the Baltic and the North Sea, is well enough for transferring vessels in time of peace; but the real defence of the North Sea ports against a Western enemy must commence at sea off Helgoland with every naval invention that human ingenuity can devise; and the defence of the Baltic ports must commence at the same time, and in a similar manner, at the Cattegat between Sweden and Denmark — 200 miles from Kiel. Should Germany grow and reach the Adriatic, she will become the most powerful of European nations both on sea and shore; but she will always need submarine boats like every other nation thoroughly to defend her ports.

The Mediterranean is by far the best locality for developing submarine boats, in consequence of its deep, clear, warm, and tideless water, and the fact that the climate admits of outdoor work all the year round.

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There is nothing to interrupt experiments; not even a gale of wind can prevent regular work, as has been proved by the French submarine flotilla at Toulon. This is particularly fortunate for all Mediterranean nations, especially Italy and Greece, which have a greater proportion of seacoast and good harbors than any others, and consequently a greater necessity for extensive means of coast defence. It is a military and naval misfortune to have too many good harbors. One never knows where the enemy may strike, and consequently all must be guarded. Then, too, in the Mediterranean all these nations are so frightfully near each other that there is no time for preparation. Even in olden times this was recognized. When Rome was hesitating between building a fleet and attacking Carthage or waiting to be attacked, the scale was turned by a fiery speech in the Senate, when the skilful orator drew from underneath his toga a basket of figs which three days before had been growing in the orchards of Carthage, and were gathered there by the crew of a galley that he had sent for the purpose. The Roman people no longer felt secure. How much more serious the conditions are to-day, it is not necessary to prove.

Japan will probably have the most efficient submarine flotilla of the future. This little nation is in that curious transition stage where she can apply at once the newest ideas of our civilization to the rugged and primitive conditions born of her feudal system, and she is not slow to see it. She is the only nation that has solved that most difficult problem, the return of the remains of the dead during a war beyond sea to the homes of the afflicted relatives. During her war with China, I saw at Sasebo, in Japan, a transport carrying 500 square coffins sent to the Pescadores Islands, all ready to receive the ashes of those who might die there, and a regular contract was made by the Government with the chief Bonze of the great Buddhist temple of Hongwonje, at Kyoto, by which the latter engaged to incinerate the bodies and perform the funeral rites on the spot and to see that they reached the homes of the relatives in Japan, no matter how poor they might be or how remote the province. What nation on this side of the globe has done anything like this, or even tried to do it? I mention this possibly irrelevant circumstance to show that Japan, in thus winning the affection as well as the patriotism of her people, has claims to the strong statement that I have ventured upon with regard to her future submarine fleet.

She will probably buy few boats until other nations have perfected them. It is her rule to buy her civilization ready made. But when these boats are once purchased, the men that she can put into them are

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unrivalled for the work. They are intelligent; they are small sized; they can live on cold uncooked food, without consequent illness; they do not apparently suffer from either heat or cold; and though there is a Japanese proverb that "a voyage at sea is an inch of hell," the Japanese sailors, drawn as they are from the fishing classes, do not get seasick. They are brave to rashness and they have no nerves; they can sleep anywhere, at any time, even, as says the missionary A. H. Smith, of the Chinese, "across three wheel-barrows, with head downward like a spider, their mouth wide open, and a fly inside."

I inspected their torpedo-boat flotilla at the time of their capture of Wei-hai-wei. The weather was arctic, it snowed three-quarters of the time, and it was blowing a gale always, with a heavy sea running. The sweating of the inside of the boats, owing to the extreme cold, caused the water of condensation to drop over everything — hammocks, clothes, and mess gear. Indeed, the whole inside was much like a cold vapor bath. Half the time the crew did not turn in at all, but they were in the habit, as the blockade duty permitted, of hoisting the "sleep signal" on whichever division could be spared, when it would run into a small cove, drop anchor, and all hands would turn in, be it day or night. I used to see these men scrubbing hammocks in the snow, clad in woollen sailor suits, without overcoats, and with straw sandals on their bare feet, while I was literally perishing with triple underclothes, two ulsters, and arctic overshoes. These men had been doing this kind of duty for months and had been attached to their boats for nearly two years. On this side of the globe the rule is to change the crews on active service once in forty-eight hours if possible.

The matter of crews for submarine boats is one which must soon receive the earnest attention of all nations; but it will be a simpler matter for European navy departments than for ours, because they are not perpetually short-handed and do not require so much special legislation to enable them to act. I think the general lines of the present German surface torpedo-boat rules are the best to follow; and the crews should be permanently attached to the submarine boats and never shifted to sea-going ships. With us, in order to get good men, I think we will have to give higher pay, because the quality of intelligence and nerve required must be of the first class, and in the United States that means money. There never will be any difficulty in getting enthusiastic and ambitious young officers for the service; but unless the men take an interest the boats will never succeed. Therefore, the men should be well paid, but discharged at short notice if not satisfactory. One of the

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consequences of having a permanent corps of men would be that the boats would be perpetually in commission and worn out instead of rusted out. They will last longer in that way, as is the case with surface torpedo-boats.

The technical details of the submarine torpedo-boat are legion, but it may interest the lay reader to know that the essential requirements are the following:

(1st) The boat should be able to steer a course and perform the necessary operations; and apropos of this it will be remembered that water is 900 times as dense as air, but that it has been calculated by Bouger that we must go to a depth of 700 feet before it becomes absolutely opaque.

(2d) The boat should have speed. The importance of this feature is accentuated and aggravated by the fact that, in consequence of the increased wetted surface, nearly double the power is required to get the same speed when under water that is obtained when the boat is running with half its body submerged.

(3d) It should have a sufficient supply of air to support life for several hours or to have the means of purifying it — 520 cubic inches of air per man per minute are required to support life — but in addition provision must be made for getting rid of the carbonic acid and animal impurities that are given off.

(4th) The boat should be of sufficient displacement to carry machinery and crew and have space for them to operate.

(5th) It should be of such form as to be easily propelled and steered.

(6th) It must be able to rise and fall at will to a determined depth either when stationary or when in motion.

(7th) The crew must be able to enter and leave the boat without external aid.

(8th) The boat must be of sufficient strength to resist collapse, the pressure increasing at the rate of one-half pound to the foot as the boat goes down.

(9th) Finally, and in addition to all the above, the boat must be properly armed in order to be certain to sink the enemy.

In the present state of the art, the boats are propelled on the surface by petroleum, gas, or alcohol engines, and under water by electric engines driven by storage batteries, which also supply the lights. Compressed air supplies breathing, ejection of torpedoes, and ejecting water ballast when required. Air that has been breathed can be rendered reasonably

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respirable again by allowing it to bubble through water. But experiments are now being made by the French with a material called "oxylithe," a new chemical compound which liberates oxygen freely when mixed with water. This not only purifies the air, but it burns up all animal impurities. In addition, experiments are being made with a new motor to which oxylithe furnishes the fuel. If this proves successful, and the prospect is at present favorable, the motor will do for both surface and under-water running. Much more powerful machinery can be installed, a large part of the heavy electric batteries can be removed, and other advantages obtained; but, of course, all this will take time. One difficulty with electric accumulators has been the escape of explosive fumes; but the French have overcome this by covering them with wire gauze boxes. In fact there is finality in nothing. The situation of the submarine boat is very much like that of wireless telegraphy. It is yet new and has its defects; but all navies must have it even as it is, though every day sees new improvements.

The impossibility of seeing under water to a great distance by any means yet discovered renders it necessary for a submarine to come to the surface occasionally on approaching an enemy in order to rectify the line of approach. To reduce the portion exposed to a minimum, a vertical tube a few feet in length containing reflecting mirrors is employed. It is called a periscope, and the end which appears on the surface resembles a bottle. Advantage was taken of this a short time ago to perpetrate an amusing ruse by floating a quantity of bottles out of the harbor of Cherbourg on the ebb tide. Calculating approximately on the time that they would reach some French armor-clads which were simulating a blockade, the submarines made their attack. The armor-clads were so confused by the bottles that they were all torpedoed by the submarines without ever being able to identify them.

I have made no effort in this article to enter into any discussion of the pros and cons of submarine-boat tactics, or into any argument to prove their usefulness. I am no longer a shining light in the polemics of technical controversy, but sit on one side in the agreeable shade of the retired list, only pricking my lamp occasionally while looking like Diogenes for some honest man who will listen to what I have to say.

Besides, why dispute on a matter like the theoretical value of the submarine boat, which, by the energetic action of the French navy, has passed from the field of academic discussion to that of practical experiment on a scale commensurate with its growing importance? As for

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its tactical evolutions, I might paraphrase a recent well-known expression and say that knowledge of their future lies not in the lecture room but under the water.

F. M. BARBER, *Comdr. U. S. N., retired,*
Late Naval Attaché at Berlin, Rome, Vienna, Tokio, and Pekin.

[NOTE.—At the annual meeting of the Academy of Sciences, held on December 22, 1902, the greater part of the "extraordinary prize of the navy" was given to M. Romanzotti, a French naval constructor. The language of the resolution was as follows:

"The Academy recompenses here an assemblage of researches which have permitted our country to construct the first submersible which has fulfilled all the conditions imposed upon the constructors."

This bears out my contention that the French have already something really practical in return for the money expended, for there is no learned body in the world that stands higher than the French Academy of Sciences.]

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INDEX.

American Drama, The, 63
American Indian, The Passing of the, 466
American Politics, 3, 163, 323, 483
Applied Science, 51, 208, 373, 533
Architectural Art, 92
Arithmetic, A Test in, 281; Causes of Success and Failure in, 437
Arnold, A New Book on Matthew, 310
BARBER, COMDR. F. M., A Rambling Discourse on Submarine Navigation, 625
Besant, Sir Walter, 150
Chinese Exclusion, 131
Commission, The Scope of a Permanent Tariff, 617
CORBIN, JOHN, The American Drama, 63
DENBY, HON. CHARLES, Chinese Exclusion, 131
Drama, The American, 63
Educational Outlook, The, 105, 269, 424, 576
Educational Research, 117, 281, 437, 588
EUCKEN, PROF. RUDOLF, The Present Estimate of the Value of Human Life, 608
Exclusion, Chinese, 131
Finance, 34, 191, 351, 515
FINCK, HENRY T., Music, 231
Foreign Affairs, 18, 177, 335, 498
Germany as a World Power, 138
HAMLIN, PROF. A. D. F., Architectural Art, 92
HAUPT, PROF. LEWIS M., Waterways: an Economic Necessity, 453
HOURWICH, ISAAC A., The Political Situation in Russia, 298
Indian, The Passing of the American, 466
LANG, OSSIAN H., The Educational Outlook, 105, 269, 424, 576
Lee's Life of Queen Victoria, 547
Life, The Present Estimate of the Value of Human, 608
Literature, 77, 220, 387, 547
LOW, A. MAURICE, Foreign Affairs, 18, 177, 335, 498
MATHER, FRANK JEWETT, JR., Literature, 77, 220, 387
MILLARD, THOMAS F., The Passing of the American Indian, 466
Music, 231, 561
Navigation, A Rambling Discourse on Submarine, 625
NOYES, ALEXANDER D., Finance, 34, 191, 351, 515
Operatic Season, Lessons of the, 561
Painting, 404
Political Situation in Russia, The, 298
Politics, American, 3, 163, 323, 483
RICE, DR. J. M., Educational Research, 117, 281, 437, 588
Russia, The Political Situation in, 298
SCHIERBRAND, WOLF VON, Germany as a World Power, 138
Science, Applied, 51, 208, 373, 533
Sculpture, 248
SOHN, JOSEPH, Music: Lessons of the Operatic Season, 561
STURGIS, RUSSELL, Sculpture, 248; Painting, 404
Submarine Navigation, A Rambling Discourse on, 625
SUPLEE, HENRY HARRISON, Applied Science, 51, 208, 373, 533

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Tariff Commission, The Scope of a Permanent, 617
Teaching, Talent *vs.* Training in, 588
TRENT, PROF. W. P., Sir Walter Besant, 150; A New Book on Matthew Arnold, 310; Lee's Life of Queen Victoria, 547
Victoria, Lee's Life of Queen, 547
WASHBURN, ALBERT H., The Scope of a Permanent Tariff Commission, 617
Waterways: an Economic Necessity, 453
WEST, HENRY LITCHFIELD, American Politics, 3, 163, 323, 483

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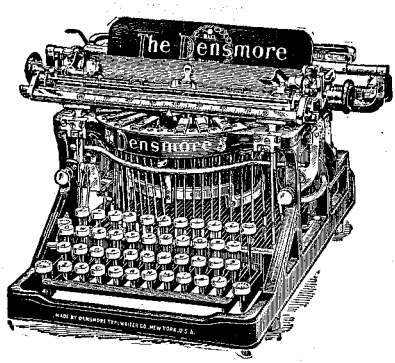

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